MAY 13 1947

# Southern FLIGHT

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May 1947
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Southern
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*The newest in farm equipment*
FAIRCHILD F24
See advertisement on page 7

# EARLY DELIVERY

# FLOATS

Edo is tooled up, Edo is building floats in volume. Edo's heavy production means early delivery of floats to you. Individual deliveries depend only on aircraft approvals and when your distributor sends in his orders. See your aircraft distributor or float dealer today and place your order. It will assure quick delivery *to you.*

**EDO FLOATS** *are sold only through Aircraft Distributors and their Float Dealers . . .*

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*Piper Super-Cruiser* · Piper Special · Stinson Voyager · Taylorcraft*

*May take a little longer.

**EDO AIRCRAFT CORPORATION** • 310 Second Avenue, College Point, Long Island, New York

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# CEILING UNLIMITED FOR THIS HORSE!

## SUPED-UP HORSE TAKES MIAMI HONORS

Flying exclusively on Mobilgas Aircraft and Mobiloil Aero, this P-38, piloted by Charles Walling of Houston, streaked over a closed course at 304 miles per hour, to win second place in the $10,000 All-American Classic, premier attraction at the 1947 All-American Air Maneuvers in Miami, Florida.

*J. D. Reed, owner of the airplane and Mobilgas Dealer at Houston Municipal Airport, is shown in the picture at the left, flanked by Harry Hobbs, Assistant District Manager for Magnolia Petroleum Company at Houston, and R. L. Murphy, District Manager at Houston, both aviation enthusiasts.*

**TWO FAMILIAR FACES** to Southwestern fliers are these of L. M. Cook, Aviation Department Engineer, Western Division, and W. B. Colvin, Salesman-Pilot, Aviation Department, Magnolia Petroleum Company.

**HE FLIES HIS OWN**—W. B. Rew, General Marketing Manager, Magnolia, pilots his own Cessna and is intensely interested in aviation activities.

**THESE TWO** keep the Red Horse flying in Magnolia's Eastern Division—N. V. Alexander, Salesman-Pilot, Aviation Department, and E. J. Keller, Aviation Department Engineer, Eastern Division.

## GUS HOFFMANN OPENS NEW FLYING SERVICE WITH BIG PARTY

Gus Hoffmann, Red Horse Dealer at Mt. Pleasant, Texas, officially opened the Hoffmann Airport and Flying Service on Saturday, April 19, with a big barbecue and dance. This was followed on Sunday with an air show. It was a gala weekend, with fliers from throughout the Southwest taking part.

*In the picture at the right, Dewey Chapman, Magnolia Agent, and Mr. Hoffmann are engaged in a bit of Red Horse conversation. The kibitzer-looking pair at the right of the Flying Red Horse are N. V. Alexander and W. B. Colvin.*

Mobilgas AIRCRAFT FORWARD WITH Aviation Mobiloil AERO
MAGNOLIA PETROLEUM COMPANY
DALLAS 1, TEXAS

Visiting relatives several hundred miles away is an easy week-end round-trip flight for this Stinson Voyager owner and family.

# *America's most useful personal plane!*
# *The great new Stinson Voyager for '47!*

SOME owners of the stunning new *21st Anniversary* Stinson Voyager tell us they bought it because it is so easy to fly.

Others chose it because of its dependability, its inherent Stinson stability, and its ability to get in and out of small fields.

But *all* Voyager owners agree that perhaps the feature that pleases them most is the supreme *utility* of this popular "fly-anywhere" plane.

The Voyager carries a useful load of 965 lbs. Cruises at 125 m.p.h. Maximum speed, 134 m.p.h. Take-off run, only 590 ft. Rate of climb, 755 f.p.m. Service ceiling, 15,650 ft. Stops in 290 ft. after landing.

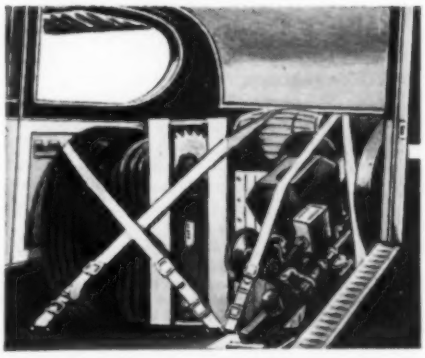
Flaps for quick take-offs and slow, short landings . . . built-in wing slots for safety. Inherently spin-resistant. Oleo spring-draulic landing gear for smooth, cushioned landings.

Two-way radio, with dome loudspeaker . . . landing and navigation lights . . . starter . . . dual engine mufflers . . . hydraulic brakes. Cabin interiors, designed by Henry Dreyfuss, are sound-proofed and air-conditioned.

See the beautiful new 4-place Voyager at your Stinson dealer's, or write for free illustrated brochure to Stinson Division, Consolidated Vultee Aircraft Corporation, Dept. F, Wayne, Mich.

**Stinson**

**FOR 21 YEARS—AMERICA'S MOST USEFUL PERSONAL PLANES**



**See The Stinson Flying Station Wagon**—America's first personal "cargo" plane. Specially reinforced cargo compartment (24 cu. ft.) in 2-tone plywood paneling with tie-down straps. A side-loading baggage compartment offers an additional 11 cubic feet of carrying space.

Load capacity: pilot, full gas tanks (40 gallons) and 552 cargo pounds. The two rear seats can be replaced to make it a 4-place plane.

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She's every inch a champion. On her nose there's a Sensenich propeller that helps to keep her one. For the best combination of take-off, climb, cruise and for happy landings, Aeronca knows that Sensenich props are tops. Aeronca is one of a long parade of prominent personal plane manufacturers that standardize on Sensenich propellers.

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*is the word for it*
*—for you*

• As ERCOUPE distributors, this is in fact and principle an organization beamed toward making aircraft ownership profitable, efficient, pleasant, and economically sensible. Our shop is designed by layout and machine tool equipment for quick service and the lowest possible rates consistent with good work. It is one of the few light aircraft shops providing Magnaflux service. • We maintain large stocks of ERCOUPE parts and other flight supplies. Experienced flight and ground technicians always available to discuss your aviation problems.

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MAY, 1947 VOL. XXVII, NO. 5

# Southern FLIGHT

Including MODERN AIRPORTS

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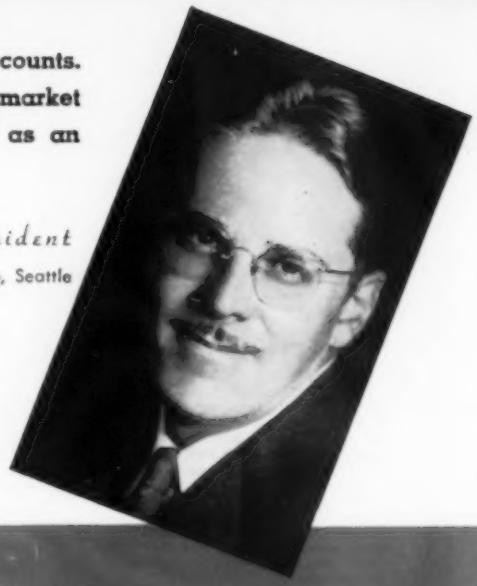
"SOUTHERN FLIGHT consistently has done a good job for our aviation accounts. Biggest reason, in our opinion, is its close and intimate contact with the market it covers. It was only natural that we recommend SOUTHERN FLIGHT as an important part of the PAC schedule."

**JOHN R. WEST** *President*

WEST-MARQUIS, INC., Advertising, Los Angeles, San Francisco, Seattle



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Publishers of: SOUTHERN FLIGHT · MODERN AIRPORTS · STANDARD GUIDE TO PRIVATE PLANES · AIR MARKET DATA SERVICE · OFFICIAL DIRECTORIES OF U.S. CERTIFICATED AIRCRAFT & AIRMEN

# "IMPORTANT MARKET . . HIGH REGARD . . INTIMATE CONTACT"

**—say these well known West Coast aviation-advertising heads about**

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including MODERN AIRPORTS

"ALTHOUGH our sales and service are nationwide, we fully realize the special importance of SOUTHERN FLIGHT's market, as well as the high regard in which it is held by plane owners, pilots, and service operators in the South."

**EARL HERRING** *President*

PACIFIC AIRMOTIVE CORPORATION

PAC

# The Birdmen's Perch

By *Major Al Williams*, ALIAS, "TATTERED WING TIPS,"
Gulf Aviation Products Manager, Gulf Bldg., Pittsburgh 30, Pa.

**They're ruining our nerves!**

That's what!

Every time we get to know enough about something to qualify as an expert, they switch signals on us.

We've spent a lot of time in an airplane learning that the higher you go, the colder it gets.

Then someone says, no! . . . that's only true up to the tropopause . . . beyond 36,000 feet or so, the temperature remains constant. So we rearrange our ideas and presently the knowledge that the temperature above 36,000 is a constant -67° is practically second nature to us.

Then guess what happens . . .

They discover—with V2's—that upper air temperatures are all over the lot, reaching an estimated 212° at 400,000 feet!

That's hot!

What's more, it's confusing!

We wish they'd get these things straightened out for once and all. So we'd know what kind of clothes to wear the next time we contemplate filing a flight plan with an estimated altitude of 400,000 feet on it!

Our favorite radio guy has just announced a new auto-pilot.

Yeah, there've *been* auto-pilots . . .

But this one weighs 29 lbs.! That's exclusive of gyros, of course, but that's still mighty light.

He must have worked as hard at getting rid of nonessential weight as we do at getting rid of nonessential hydrocarbons, when we refine Gulfpride Oil.

Mind you, we don't just stop at refining the fine crudes that become Gulfpride . . . we throw in an extra step, the Alchlor Process.

And this extra step gets extra trouble-making carbon-and-sludge-formers out of Gulfpride Oil.

And you get extra lubrication!

## LITTLE KNOWN FACTS DEPT.

Here we go again, with a commission as Perch Pilot (bottom rung) to each of the contributors of the following Little Known Facts About Well Known Planes:

From Ken Medley, P.O. Box 285, Carbondale, Pa.:

**"The maximum allowable RPM drop when checking mags on a DC-4 type plane means a loss of hp equal to total hp of most light planes!"**

William Pipkin, Jr., Wayne, Mich., qualifies with:

**"From D-day to VE-day in the ETO, P-47's knocked off 86,000 RR cars, 9,000 locomotives, 68,000 motor transports, 6,000 armored vehicles, and 60,000 horse drawn vehicles!"**

See how easy it is?

Just send your Little Known Fact, *with proof*, to that address on the top of the page. If it's used, you get a scrumptious, handsome, beautiful certificate which proves to one and all that you're a Perch Pilot (br).

So what are you waiting for?

**Gulf Oil Corporation and Gulf Refining Company...makers of**

GULF **GULF AVIATION PRODUCTS**

IT SOUNDS SILLY, BUT SOME FELLAHS ARE STILL STARTING TO REPAIR GAS TANKS--
BEFORE THEY'VE THOROUGHLY CLEANED THEM! WE'RE FIRMLY AGAINST THIS PRACTICE
BOOM
...BECAUSE WE LIKE PILOTS AND HATE TO LOSE CUSTOMERS FOR THAT
GOOD GULF AVIATION GASOLINE!
GULF

**These FAIRCHILD F24 distributors...**

**will be pleased to show you the newest in farm equipment.**

(See front cover)

☆

**HENSON FLYING SERVICE**

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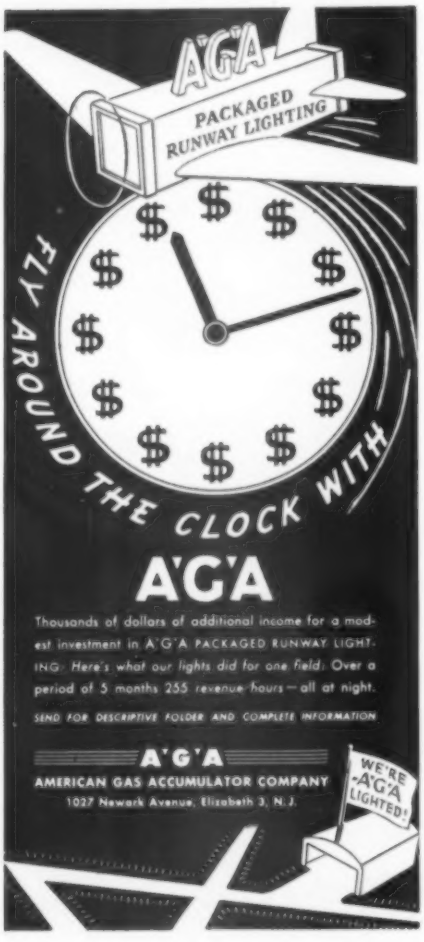
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Thousands of dollars of additional income for a modest investment in A'G'A PACKAGED RUNWAY LIGHTING. Here's what our lights did for one field: Over a period of 5 months 255 revenue-hours—all at night.
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WE'RE A'G'A LIGHTED!

### It's Still Safer to Fly

WE were very interested to read a speech by Arthur E. Raymond, Engineering Vice President of the Douglas Aircraft Company and a member of the AIA Aircraft Technical Executive Committee, before the Aviation Sub-committee of the Senate Committee on Interstate and Foreign Commerce. Mr. Raymond stated, among other things, that the modern transport aircraft is perhaps the most carefully engineered product used by men.

Engineered into aircraft within the last few years, and contributing greatly to improved safety, the tricycle landing gear, he said, has increased safety by reducing the piloting skill required in landing; reduced the possibility of ground loops; reduced the possibility of nosing over; allowed safer cross-wind landings; gave the aircraft an inherent tendency to stay on the ground and quit flying once contact was made with the ground; improved pilot vision, etc.

He explained that reducing pilot fatigue was a very important factor and we very much concur with him on that score. Improved heating and ventilation, air-conditioning, humidity regulation, draft-free ventilation were important for comfort and reduction of fatigue. Roomier cockpit, improved visibility, improved stability, stalling and control characteristics made manual flying less tiring. Division of responsibilities, greater safety due to number of engines, increased wing loading to lessen the rough air effect; more reliable de-icing, improved autopilots, fewer fire hazards—all add to the imposing list of improvements made.

We wish we could say as much for the lightplane industry. Need of improvements for private fliers will probably all come in time, as most of them involve additional expense that the public is not yet willing or able to pay for. Someone is, one of these days, going to jump in and design a tricycle, retractable gear that is no more expensive than some fixed gears. Just how they will do it, we don't know, but having made some study of gears ourselves, we believe it can be done.

Safety is of tremendous importance although it never will reach the point where people will not get killed in airplanes. As with automobiles, some of them seem determined to commit suicide. We still believe the factor of safety in private flying can be very high and can approach scheduled airline safety records. We believe it still is safer to fly than it is to go by any other form of transport.

### Freedom of Flight

YESTERDAY, my daughter was riding back from the airport with me in the car. At a stop sign we waited some thirty or forty seconds while the light changed from red to green. At that point, the young lady, age five, made a statement epitomizing the whole story of the advantage of air transport. She said, "Daddy, don't you wish we were up in an airplane so we could fly right over these stoplights?"

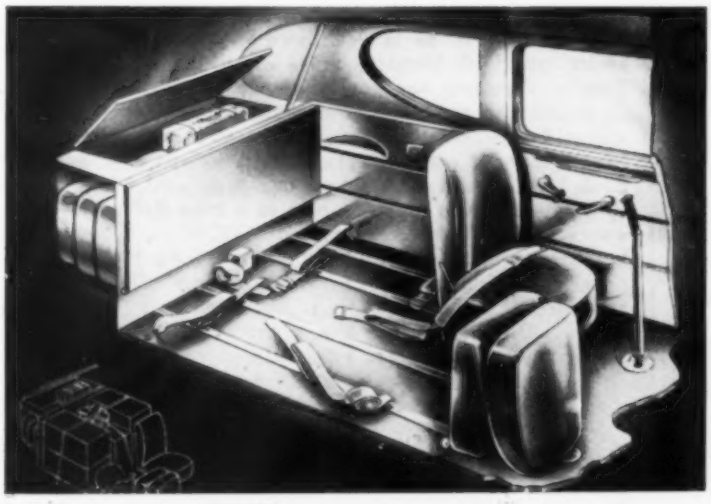
In these days, when people's nerves are pretty well rubbed by politics, the United Nations squabbles, high prices, poor quality, portal-to-portal and other labor situations, etc. the business of starting and stopping at every sign is just another one of the straws that almost breaks the camel's back. It seems that most small towns, having nothing better to do, have erected stoplights at points where there is no traffic at all going crossways. Until some enterprising states get busy and erect stop signs at each state line, we have no troubles of this kind in aviation. Let us hope that every politician who ever has the thought of stopping aircraft at the state lines dies a sudden and ignominious death, as there certainly will never be any advantage to anyone in stopping at a state line.

### Where to Go

We have a nice letter from the Skycrest Country Club at Prairie View, Illinois. This now makes several places that we can go to play golf and so on. They have a thirty-six hole golf course, a modern clubhouse, tournament pool and their own private scissor strip for members' planes. I don't know that this is open to the public but it is an idea in the right direction to increase the demand for private aircraft. There are probably quite a few of these clubs and many of them must be open to the public. They have, however, hidden their light under a bushel and most people do not know about them. Anyway, we still stand pat on our statement that what we need is hundreds of these things—not just several. ★ ★ ★

# THE *Newest* IN FARM EQUIPMENT

FLYING FARMERS asked for this latest version of the famous Fairchild F24. It's the "Rancher," the plane for every purpose, equipped for real farm utility! . . . "THE RANCHER" is tailor-made. On weekdays it serves as an aerial pickup truck for hauling supplies and equipment at low cost per pound mile. Lowering of the rear seat and replacement of cushions converts it, instantly, to an ideal pleasure plane for the family, for trips to cattle shows, for seeing town and country. . . . HERE AGAIN, Fairchild Personal Planes gives you an airplane you'll be proud to own. Metal sidewalls resist abrasion by cargo; metal skid strips protect floor carpet from wear and provide for easy loading and unloading of cargo. Tie-down straps prevent cargo shifting in flight. . . . ITS GENEROUS baggage compartment allows room for stowage of seat cushions and personal luggage—All this without sacrifice of comfort, safety or performance. . . . WITH THE "Rancher" there's no need to fly light. There's always work for it to do—it will bring returns by saving time, effort, and money. . . . FOR THE farm, "The Rancher" is the best buy! It's essential farm equipment to the modern farmer.



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RFD 7, DALLAS, TEXAS

Distributor for Texas and New Mexico

*These dealers will be pleased to serve you:*

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BREEDLOVE AERIAL SERVICE
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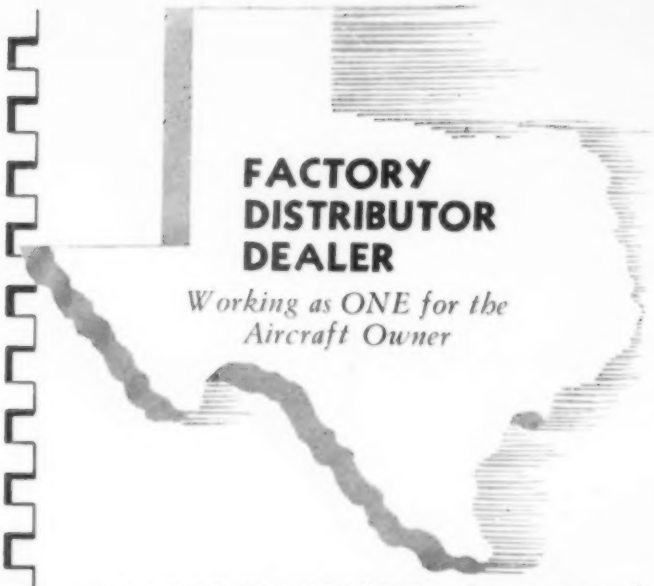
Municipal Airport, Vernon, Texas

**FAIRCHILD PERSONAL PLANES DIVISION • FAIRCHILD ENGINE AND AIRPLANE CORP. • STROTHER FIELD, WINFIELD, KANSAS**



**FACTORY**
**DISTRIBUTOR**
**DEALER**

*Working as ONE for the Aircraft Owner*

SELLING AIRCRAFT is only one part of our job. *Keeping them sold* is the more important part. We do this by the simple philosophy that a satisfied customer is a happy one—and that good news spreads. ¶Toward that goal, we have established an extremely close relationship between the factory, the distributor (ourselves) and our dealer organization. By maintaining an intimate knowledge of the manufacturers' policies, techniques and experiences we are able to pass on to our dealer organization a factory-close contact that benefits the aircraft user in numerous ways. ¶ We want you to know better the dealers who sell and service Stinson, Piper and Republic Seabee aircraft in Texas—and beginning next month in this same space we will introduce these people to you.

Strictly a sales and service organization, established seven years ago, and dedicated to good customer relations . . . Serving as liaison between the manufacturer and the ultimate consumer, through a closely-knit dealer organization . . . Maintaining for aircraft dealers and operators large stocks of aircraft and engine parts, equipment and supplies — and an immediate shipment policy on large and small orders . . . All phases of maintenance and repair . . . Aircraft and Engine Repair Depot No. 1177.

**AIRCRAFT SALES CO.**

6-5491 MEACHAM FIELD

6-5492 FT. WORTH, TEXAS

San Antonio Branch: Stinson Field


# AIR Report

SIGNIFICANT TRENDS IN THE NEWS

### Navion Manufacture Halted

All Navion production was stopped in mid-April for a period of about 30 days by North American Aviation, Inc., which cited readjustment of production schedules and inventory position as the causes. Workers were transferred to other departments. Navion deliveries in March were only 101 against 238 in January. Navion No. 775 was delivered recently. Several hundred planes were on the lot.

### C-82 for Aerial Planting

L. S. (Doc) Adams, who completed extensive planting-by-air projects last year on thousands of acres of government land, is setting up a 50,000-acre Navajo Indian Reservation project in which a Fairchild C-82 Packet will be used as a planter. The Packet, on loan from the Army, will be furnished with crew and maintenance by Fairchild. His aerial planting consists of spraying specially-prepared seed pellets, each carrying its own fertilizer and growth-starting soil, from a cruising airplane through a patented turbine-like "disseminator."

### Midget Mixmasters for Trainers?

Eventual re-equipping of the AAF with jet planes will bring about significant changes in trainer types. Army is believed studying the Douglas Cloudster as a possible successor to the AT-6. Developed for commercial sale, the "Midget Mixmaster" has two 200-hp. buried engines driving a single pusher propeller.

### Short Snorts

Waco has twice landed its Aristocraft with wheels retracted on purpose without any damage whatever. Wheels remain partially exposed when retracted but nose wheel isn't steerable in that position. The prototype has a Seabee wing. Aristocrafts No. 2 and No. 3 are well along and first demonstrator will tour country in July, with first deliveries set for September at $9,980 fully equipped. . . . A steerable tail wheel described as very successful has been developed for the Seabee by Distributors Ed Garbacz of Little Rock and Les Bowman of Fort Worth. Republic will produce it and offer conversion kits. . . . Currey Sanders, widely respected test pilot and Beech distributor at Shreveport, says he landed there with a tailwind only 2 hours out of Wichita, 420 miles away, in a Bonanza. . . . Stinson Voyagers are now equipped with 165-hp. Franklins, although the need of extra power remains obscure. . . . CAA demonstrations with cross-wind landing gear have convinced many skeptics that castered gear is practical. All American Aviation has been authorized to install experimental castered gear on a twin Beech and CAA wants to try the swivel gear on a DC-3. . . . June 22-28 has been selected for the first National Air Tour to emphasize the importance of private flying. United Pilots and Mechanics Association is sponsoring it. . . . T. P. Wright, CAA chief, has recommended only one physical for private pilots, before solo, without renewal.

### Air Freight Certificates Soon

CAB probably will issue certificates for air freight operations soon, having separated this case from the non-scheduled project. . . . Feeder line troubles, including financing ills, have caused at least one new certificate holder to inform the Board it probably won't operate.

A GOOD EXAMPLE OF SAFE FLYING

# STANDARD OIL COMPANY

## (NEW JERSEY)

## equips Beechcraft and Lockheed Transports with Irvin Custom-Built Chair Chutes

THE Standard Oil Company (New Jersey) is another in the growing list of well-known plane owners using Irvin Custom-Built Chair Chutes. This new kind of chute not only makes flying decidedly safer, it has many other advantages as well. Chair Chutes are built into your plane . . . fitted into the back of each chair. You don't have to "remember" them . . ."wear" them . . . carry them about . . . or find a place to store them. They're always in your plane . . . in the back of each seat . . . instantly available in an emergency. Irvin Custom-Built Chair Chutes can now be had for all types of planes . . . large or small. They're completely illustrated and described in our Chair Chute circular. Write for a copy today.

IRVIN Air Chute
The Life Preserver of the Air

**FEEL SAFER . . . BE SAFER . . . with Irvin Custom-Built Chair Chutes**

*There are now over 35,000 registered members of the Caterpillar Club. Should you qualify, please write us.*

Illustration shows Irvin Custom-Built Chair Chutes installed in a Beechcraft. Chair Chutes combine beauty, convenience and comfort with tested safety. They cost you little . . . are easily installed. Get them for the plane you own or plan to buy.

**IRVING AIR CHUTE CO., INC.**

**1674 JEFFERSON AVENUE, BUFFALO 8, NEW YORK**

*Southwest Parachute Co., Leon McKennon, Pres.*
*4347 Lovers Lane, Dallas, Texas*
*Distributor for Texas, Oklahoma, Arkansas, Tennesee*

# Just among ourselves

EDITORIALS

## FEDERAL FUNDS FOR PERSONAL AVIATION

THE Civil Aeronautics Administration has proposed government financial assistance for the improvement of personal aircraft design, particularly in phases which neither the industry nor the military services are actively pushing for economic or other reasons.

If the suggestion is approved by the industry—the personal Aircraft Council of the Aircraft Industries Association has smiled favorably on the proposal — a suggested appropriation of some $5,000,000 will be sought by the CAA to carry out the program over a period of three years. Projects will be chosen by a committee made up of industry, Army, Navy, NACA and CAA representatives.

We compliment the progressive thinking of the Department of Commerce officials and we confidently believe that the proposal contains the nucleus or germ of an idea, which, if intelligently debated and carefully planned with the full consideration and advice of every segment of civil aviation, can and will produce substantial benefits for personal airplane owners.

In stating the problem, William A. M. Burden, Assistant Secretary of Commerce, observed: "The private plane buyer must be offered greater utility. For some time, private flying has been caught in a vicious circle of 'low utility and high costs.' This familiar adage must be replaced by 'greater utility and lower costs' if civil aviation is to develop to its fullest extent." Practically everybody agrees with that thesis. But how to reach that happy condition is a horse of a different color; and what role the government should take, as well as the extent of the subsidy, are subjects of considerable moment and debate.

We hold to the belief that greater utility and lower costs will come largely through competition among the few remaining personal aircraft manufacturers. Many realistic professional aviation people believe that the CAA can best serve the personal aircraft field by a more efficient handling of their present duties rather than by branching out into experimental design.

When you take a look at the cold, hard, cash development figures reflected in certain airplanes—for example the North American Navion, the Beech Bonanza, the Republic Seabee, the Grumman Mallard or the two-control Ercoupe — you immediately wonder how much acceleration will derive from a paltry $5,000,000 of government money over a three-year period. Mr. Burden believes that increased government expenditures might accelerate the rate of development of the product by from five to ten years so that the CAA prediction of 400,000 personal planes by 1955 will be realized. We do not believe that a small program will account for that much acceleration.

Assuming that we desperately need benefits which will derive to the people of the United States from a government program designed to create greater utility and lower costs for personal aircraft, surely the program should be on a par with other government aid programs such as the $50,000,000 GI flight training project, and at least equivalent to the national airport program. Otherwise, engineering development will be limited to small gadgets and experimental projects such as the full-swiveling landing gear. These are important and valuable, but secondary to the real root of the problems of better aircraft for less money.

When the complex problems of more dependable engines, better hydraulic systems, instruments, radios, brakes, propellers and fuels start to unfold, a few million bucks in engineering, test and design improvement simply won't go far. Forgetting any new experimental designs in airframes, in gas turbines, in noise reduction, in roadability features, in the rotary wing field, in restricted control systems and scores of similar projects, the very basic job of keeping the present owner happy and contented with his 1946 or 1947 equipment poses enough projects for a multi-million dollar program during the first few years of government sponsorship.

We agree wholeheartedly with the proposal that an industry-government committee review the present status of the development programs of the Army Navy, CAA, NACA and the industry and attempt to reach agreement as to the projects which are not provided for by current government programs and which the personal plane industry is not likely to carry out. When the smoke clears, we believe the necessary appropriations will be in the neighborhood of $50,000,000 instead of $5,000,000 for the first couple of years.

Therefore we maintain that the Department of Commerce has undershot the field. But the basic idea is sound. Mr. Burden's proposal is principally valuable because it brings into sharp focus a very fundamental question: Should it be the government's policy to accelerate technical progress in the personal aircraft field? And if so, to what extent?

The next step is to draft a realistic program that will be of such scope and influence the resulting impact on personal aircraft development will be comparable to the impact on the development of military aviation and scheduled air transportation—rapid developments which can be traced straight back to the U. S. Treasury. Perhaps the appropriation of funds should go to the National Advisory Committee for Aeronautics for the establishment of a specialized, adequately staffed experimental and research branch dedicated entirely to the personal airplane and its component parts, with contract awards to be decided by the CAA-Army-Navy and civilian joint committee. The main point is that any such program had better be commensurate with the terrific problems involved and not a half-measure shot from a water pistol. Otherwise, the personal aircraft field might better be left alone to seek its own technological development the hard way, as it always has managed to do down through the years. ★ ★ ★

# ANNOUNCING TWO NEW 4-PLACE CESSNAS!

**The 195** — Top Speed Over 180 M. P. H. Cruising Speed Over 165 M. P. H. at 7,000 ft. Usable Range Over 700 Miles. Luggage Capacity up to 200 lbs. with 4 passengers and full tanks of fuel and oil.
**300 H. P. JACOBS ENGINE**

**The 190** — Basically the same as the 195: All-Metal with Tapered Cantilever Wing, Electrically-Operated Flaps, Luxurious Appointments—Offers Comparable Performance with a
**240 H. P. CONTINENTAL ENGINE**

## NOW! Airline Speed—Airline Comfort

### in Your Own Executive-Type Personal or Company Plane

Now Cessna offers the two finest airplanes in the 4-place executive-type field . . . planes which will take you, your top executives, your trouble shooters to any part of the country without a worry about schedules and connections.

They're big, fast, luxurious . . . *yet surprisingly economical to own and operate.* Like all Cessnas, the new 195 and 190 are safety-engineered to give you *more for your money.*

Both are all metal, and equipped with Hamilton Standard Constant Speed Propellers. Both have the famous Cessna Tapered Cantilever Wing—the same clean wing design as their forerunner, the Cessna Airmaster—3 times judged the World's Most Efficient Airplane. Electrically-operated flaps provide safer landings. 3-piece, easy-access cowl and hinged engine mount reduce maintenance time and costs. Sealed bearings on all control surfaces insure smooth, easy action. Both offer ultra-violet instrument lighting, improved sound-proofing, many other "extras." Ideal for charter use. See your Cessna dealer now.

**Plenty of room for four** to stretch their legs and relax. If you travel light, you can carry *five* with complete safety. Foam-rubber seats, fine upholstery and carpeting add to luxury and comfort.

**Up to 200 lbs. of luggage** . . . everything 4 people need for an extended trip . . . fits easily into the luggage compartment. Separate, low-level door in fuselage for convenient loading and unloading.

**Cessna's patented, safety landing gear** permits smooth taxiing over even the roughest fields . . . absorbs landing shocks . . . combats ground looping tendencies. No moving parts to require maintenance.

### Now Four Great Cessnas From Which To Choose

See the

**CESSNA 140 and 120**

Luxurious, 2-place, cross-country planes . . . at light training plane prices. Over 120 m. p. h. top speed—450-mile range—15,500 feet service ceiling. All-metal structure. Full-range flaps on the 140. Only $3245 and $2695 (f. o. b. Wichita).

Cessna
THE PILOT'S AIRPLANE

**MAIL THIS COUPON TODAY...**

Cessna Aircraft Co., Dept. SF, Wichita, Kansas

Please send free literature giving complete description of the Cessnas 195, 190, 140 and 120 to:

Name_____

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City_____ State_____

Size is emphasized by these side views of Model 195, powered by 300-hp. Jacobs. Model in cabin has foot on small, retractable step. Wing has electrically-operated flap just behind rear spar. Propeller is constant-speed Hamilton Standard. Price: $13,750.
—(Cessna Photo.)

# Cessna's BIG

**Successor to the famous Airmaster, Cessna's all-metal Model 190 - 195 series tops the lightplane field in size, power and price.**

POSTWAR standards for 4-5-place airplanes now on the market have been extended in size, useful load, power and price by Cessna Aircraft Company's long-awaited Models 190 and 195. The twins, identical except for power, also mark the use of radial engines on newly-designed personal planes and their aluminum-covered wings make them Cessna's first completely all-metal aircraft, a significant development for the Wichita factory now vigorously pressing Piper for distinction as the world's largest producer of lig'htplanes.

Price underlines the new Cessnas as "big" airplanes in the personal field. The 190 is tagged at $12,750 and the 195's price is $13,750. These figures are more than $4,500 above the current price of the nearest competitive design. Acknowledging this, Cessna emphasizes that their new models were not intended to be competitive in price with other craft.

"These new Cessnas are especially designed to meet the rapidly-developing business executive market," the company explains. "For this market we have built the largest, roomiest and most luxurious postwar plane in the 4-5-place class. It emphasizes utility over price."

Unlike other recent models in its category, the new Cessna design is basically conventional. Its high wing is fitted into the fuselage to achieve the same high efficiency that characterized the prewar Airmaster, to which it bears a slight resemblance. It is distinguished by Cessna's patented landing gear of flat spring steel, an enlarged version of the aerodynamically-clean gear on the 2-place Model 120-140 series.

But the major difference between the new 190-195 series and other postwar 4-place designs is the use of radial engines. The 190 is powered by a 240-hp. Continental radial and the 195 carries the 300-hp. Jacobs. Both are improved versions of familiar, old-line power plants. All other 4-place designs are using the comparatively newer "flat" engines, the largest of those on currently-produced airplanes being the 215-hp. Franklin used by the Seabee.

### Performance

Performance-wise, they offer the highest useful loads available in the 4-place class. Oddly enough, the 240-hp. Model 190 carries 20 lbs. more than the 300-hp. 195, the useful loads being 1,320 lbs. for the former and 1,300 lbs. for the 195. Empty weights are 2,030 lbs. for the 190 and 2,050 lbs. for the 195. They both gross 3,350 lbs., each carrying 80 gals. of gas and 200 lbs. of allowable luggage.

Company performance figures, made at full gross loads, include the following:

| | Model 190 | Model 195 |
|---|---|---|
| Top Speed | +170 mph. | +180 mph. |
| Cruising Speed with 70% power at 7,000 ft. | +160 mph. | +165 mph. |
| Landing Speed | | |
| Range | +700 mi. | +700 mi. |
| Rate of Climb 1st minute | 1,050 fpm. | 1,200 fpm. |
| Service Ceiling | 16,000 ft. | 18,300 ft. |

Queried as to the landing speeds, which were not released, the factory reported work is still under way to bring them down and explained that no figure would be announced until the project is completed, rather than publish an arbitrary figure.

Electrically-operated flaps are located forward of the wing's trailing edge, just behind the rear spar. The installation is similar to that on the prewar Airmaster.

Dimensions for the two planes are the same except that the 195 is 2 inches longer. They are: Length, 27 ft. 2 in. (195 is 27 ft. 4 in.); height, 7 ft. 2 in.; wing span, 36 ft. 2 in.; interior (floor to ceiling) 47 in.; overall cabin length 104 in.; door, 43 in. high, 31 in. wide; luggage door, 25 in. high, 22 in. wide.

### Full Equipment Is Standard

Both airplanes carry full equipment as standard. This includes Hamilton Standard constant-speed propeller, instrument flight panel, 2-way radio with

# G Series

loudspeaker, and cabin heater arranged into an elaborate ventilating system so that inside temperatures can be regulated as desired.

Entry via the large cabin door is facilitated by a retractable step. Roominess in the front seats is accommodated by a throw-over control column. Both front seats are adjustable and can be moved forward or backward as much as fourteen inches. The rear seat is said to be wide enough for three persons. Considerable leg room is provided in the cabin's overall length of more than 8½ feet. While the large luggage compartment has an outside door, it is accessible from the back seat while in flight.

Soundproofing apparently has been accomplished to a great degree in view of the provision of a loudspeaker. The company explains that its new dynafocal engine suspension reduces engine noise and vibration.

More information concerning the patented Cessna spring steel landing gear has been made available following factory tests with the springs on Model 190. They were described as not only passing the official drop tests of 22 inches at gross weight, but passed overload tests of 54-in. drops at arctic temperatures of 84 degrees below zero. The spring gear actually can spread out until the belly of the ship touches

*(Continued on page 38)*

**View from above shows large, all-metal wing of Model 195, with plexiglas sky panels for visibility. Factory figures: Cruising speed with 70 per cent power at 7,000 ft., over 165 mph.; useful load, 1,300 lbs.; range, over 700 miles (80 gal. fuel capacity).**

—(Cessna Photos.)

# Fairchild South to the Border

By JOE JAMES
Associate Editor

"FLY down to the border and get the low-down." That kind of assignment wasn't hard to take, not when it was combined with a cross-country test trip in a new Fairchild 24, a big, 4-place, 175-hp. airplane that has the reputation of being right at home in the Rio Grande ranch country.

The Mexican border offers numerous attractions to the cross-country flier—good flying country with plenty of airports en route, good weather and, after arrival, international attractions across the Rio Grande which include some interesting "foreign" hops one can make without undue complications.

Laredo was our destination — a natural. This Texas border city officially became an international "port of entry" on May 1, with special customs facilities provided by both U. S. and Mexico to serve flying travelers. Its huge airport, an $8,000,000 Army base acquired from surplus stocks, has been revamped to attract as many private fliers as possible through this convenient gateway to Mexico and points South.

One small item remained—the matter of a check-out in the F-24. "It'll take every bit of thirty minutes," warned Bill Flemister, who with partner Bill Capps, operates Southern Air Sales at Highland Park Airport near Dallas. Once torque from this larger-than-usual personal plane engine had been mastered, flying the F-24 was just as simple as the Texas distributor had promised. For our own satisfaction, we logged an hour around the airport and worked in a few cross-wind landings and take-offs. A series of high altitude "emergencies" revealed the F-24 has a nice glide angle with power off, can be slipped like a Super Cruiser or Luscombe, and can be put down just about anywhere you could land a smaller plane. Two-position flaps are quite effective and, if you're undershooting on an approach, you can raise the flaps with no harmful effects. With that to boost our confidence, we were ready to head for the Rio Grande.

Climbing to 2,700 feet, still well below the overcast, we gradually eased down to 2,500 feet with climbing power. This quickly brought up the speed and simplified trimming for cruise. Then we eased off throttle to 2,200 rpm., gave the overhead trim tab a half-turn "down", and watched the indicated air speed settle at 118 mph. With four people aboard, the Fairchild cruises with nose an inch or so below the horizon—quite a bit higher than any 85 hp. plane. Winds at this altitude were 20 mph. from 190, which meant no drift correction to hold the 189-degree true course to Austin.

Our route, skirting a line of hills rising west of Temple, Austin and San

*Sketch by the Author*

—*Smart Photos.*

**When the four-place F-24 (left) landed at Laredo, a flagman (above) coaxed us over for service.**

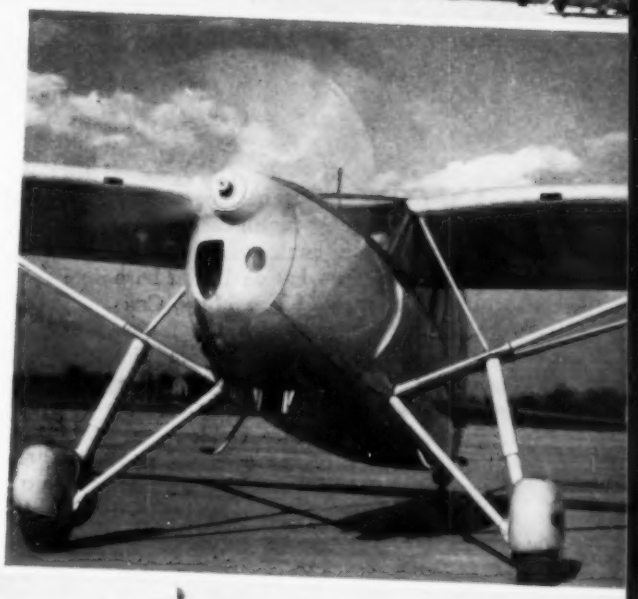
Antonio, is probably the finest in the country for the lightplane pilot. Flying over flat, level farmlands, one can pull back the power at practically any point between Dallas and San Antonio and have an excellent pasture or field in easy gliding distance.

A few miles south of San Antonio low-hanging clouds faded and we flew into bright sunshine. Rather than follow the highway and railroad, in a swing to the west, we decided to ride the south leg of the San Antonio radio range. The beam is directly on-course to Laredo but this short-cut route took us across ranch country as lonesome as a bunk house on Saturday night. Dense mesquite is no place to land an airplane and the steady hum of the Ranger up forward became most reassuring. To others making the trip, we'd suggest following the highway. Towns are fairly well spaced and the highway, practically free of fences, provides a continuous emergency landing strip.

Laredo's municipal airport was visible from thirty miles out—its 6,000-ft. double runways shining in the bright sunshine. Nearing the huge airport, we called Laredo Radio for landing instructions (at present the field has no control tower). "Land at your own discretion," the operator advised. "Wind is south southeast one-two." Traffic is left-hand and the field is 512 feet above sea level. We entered the pattern with 1,500 feet of altitude, slowed to 85 mph. on the down-wind leg, and lowered half flaps as we turned cross-wind at 80 mph. Full flaps on final enabled us to come in with just a touch of power and, as the wide gear touched, we eased off throttle and the Fairchild was through flying.

*(Continued on page 41)*

**Laredo's attractive and well-fitted terminal (above) was a student operations building during the war. Close-up of new Fairchild (right) emphasizes wide landing gear, unique cowling and strut arrangement.**



**Good-neighboring at Nuevo Laredo's municipal airport in Mexico. Left to right, Mrs. Gordon Gabbert, Mrs. James, Sam Sullivan, chairman of Laredo's aviation committee, Col. Charles Pearcy, Raphael Carranza, Mexican private flier, Mrs. Sullivan, and a PAA captain.**

Simplified construction and the smallest dimensions of any all-metal lightplane give the Sky Skooter an empty weight of only 565 lbs.

# Thorp Sky Skooter

**By MIDGE WINTERS and JACK SHERWOOD**

WHAT might become one of the most significant lightplane production engineering accomplishments in years has enabled Thorp Aircraft Company of Van Nuys, California, to come out with the industry's smallest all-metal 2-place airplane, the Sky Skooter, which offers two-control with the added feature of an independent auxiliary rudder.

From a no-chart approach — they purposely brushed aside stereotyped preliminary engineering and started from scratch — to simplification of design and low-cost flying, a staff headed by John W. Thorp, former Lockheed engineer, evolved a design they describe as being "as honest an airplane as has ever been built."

The 65-hp. tricycle has as its most outstanding single feature an extremely low empty weight which permits unusual performance on low power. Its empty weight of only 565 lbs. was obtained through structure simplifications as well as its small dimensions: Length 17 ft. 10 in.; wing span, 25 ft.; height of tail 6 ft. 9½ in.; height at canopy, 5 ft.

It compares with other 2-place, 65-hp. types as follows:

| Type | Empty Wt. | Useful Load | Gr. Wt. | Gas | Cr. Speed |
|---|---|---|---|---|---|
| Sky Skooter | 565 | 485 | 1,050 | 18 gals. | 100 |
| *Ross RS-26 | 555 | 440 | 995 | 12 gals. | 90 |
| *Piper J3C | 680 | 540 | 1,220 | 12 gals. | 73 |
| *Piper PA11 | 730 | 490 | 1,220 | 17 gals. | 87 |
| *Aeronca 7AC | 750 | 470 | 1,220 | 13 gals. | 90 |
| Luscombe 8A | 750 | 470 | 1,260 | 14 gals. | 105 |

*Fabric covered.
All factory figures.

While production plans are not definite and the company expects no production deliveries before fall, Thorp says they are well on the way to production and believes a profit can be made on a retail price below $2,500. Three Skooters have been completed. One of them has just returned to Van Nuys from a service-test flight to Washington and other Eastern points. CAA flight tests have been completed and the company expects an NC within a month.

### Performance

Cruising speed of a "satisfactory" 100 miles per hour is claimed for the Sky Skooter, with its range placed at 400 miles plus 30-minute reserve. Thorp says the average pilot can land it with only a 200-ft. roll at 45 mph., take off with a 300-ft. roll at sea level and climb 600 feet the first minute. He describes a 1,000-ft. strip, with no obstacles over 50 feet, as being adequate for the little tricycle.

"The Sky Skooter is a small-field airplane that will get in and out of tight areas and one which will truly operate out of a cow pasture," he said, expressing the belief farmers and doctors will be his first and best customers.

Watching Thorp maneuver the Sky Skooter over Metropolitan Airport at Van Nuys the other day, we saw him complete a turn immediately after take-off at the amazingly low speed of 39 mph. In the same solo demonstration, he maintained level flight at 36 mph.

Despite its small size, cockpit dimensions equal or exceed current standards for two-place, side-by-side lightplanes. The cabin is finished simply, but smartly, in duraluminum. Its large bubble canopy is equipped with a door. The gas tank is located behind and above the seat.

The airplane's low ground position allows easy access to the cockpit, and its wide wheel-tread, measuring 7 ft. 2 ins., with steerable nosewheel and hydraulic brakes, permits positive handling. Full-slotted flaps and engine muffler are standard, with fully-enclosed mechanical starter offered as optional.

### "2½-Control"

The unique control system, with ball-bearing tube-type linkage eliminating friction to provide complete "feel," is described as being two-control. "It has aerodynamically-synchronized controls — a slight pressure on the stick, without rudder, banks the plane into a stable, normal turn," Thorp says. "It is also equipped with a small auxiliary rudder and pedals, which work independently of the synchronized controls. The all-movable horizontal tail, an important design feature, insures positive elevator control at low air speeds."

This Thorp calls "2½-control." A study of the accompanying photo-

**From a new design approach has emerged a remarkable West Coast prototype dedicated to low costs and ease of piloting as well as cross-country performance.**

Skooter's small dimensions include length of 17 ft. 10 in. Top of canopy is only 5 feet above ground. Tricycle gear is fixed. Note ample clearance of propeller from ground.
—(Thorp Aircraft Photo.)

graphs will show the small rudder and the unique elevator.

The enterprising engineer believes the lightplane today is just about where the automobile was back in the twenties, insisting that design improvements to increase utility and lower manufacturing and flying costs will have to follow a similar evolution. In earlier days the automobile was excessively priced and lacked a widespread highway system. Accordingly it was a plaything for those who could afford it, a symbol of wealth for the well-to-do. Farmers and doctors were among the first to find utility in it and as it came within reach of more people, highway development was forced by public demand.

To overcome the lack of airports and their distribution, he designed the Sky Skooter for low-speed maneuverability and positive ground handling so that fields smaller than Class I airports will be adequate.

### Simplified Construction

To cut the cost of the airplane, his engineering was centered on an objective of reducing parts and man-hours for its construction. The 25-ft. wing, for example, has only four ribs on each side of the fuselage, a single spar. Its sheet metal covering is beaded by corrugation for added strength. Similar simplification of the tail structure decreased the number of manufactured parts in the airplane by over 300. Consequent savings in riveting and assembly man-hours are expected to be substantial.

The ailerons have only three parts—one piece of metal skin folded over two ribs. Large sheets are used to advantage in simplifying fuselage construction.

John W. Thorp has served in an executive capacity with the engineering departments of both Boeing and Lockheed Aircraft companies. He was formerly head of the engineering department of the Boeing School of Aeronautics, from which he himself was graduated. He has been in aviation for almost two decades, having learned to fly in 1929 at the age of 17.

Thorp Aircraft, which was organized to turn out the Sky Skooter, is now a year and a half old.

Vice president of Thorp Aircraft is Robert Reedy, also an alumnus of the Lockheed engineering department. He is formerly from Texas. Secretary-treasurer is William Palmer, well known in aviation.

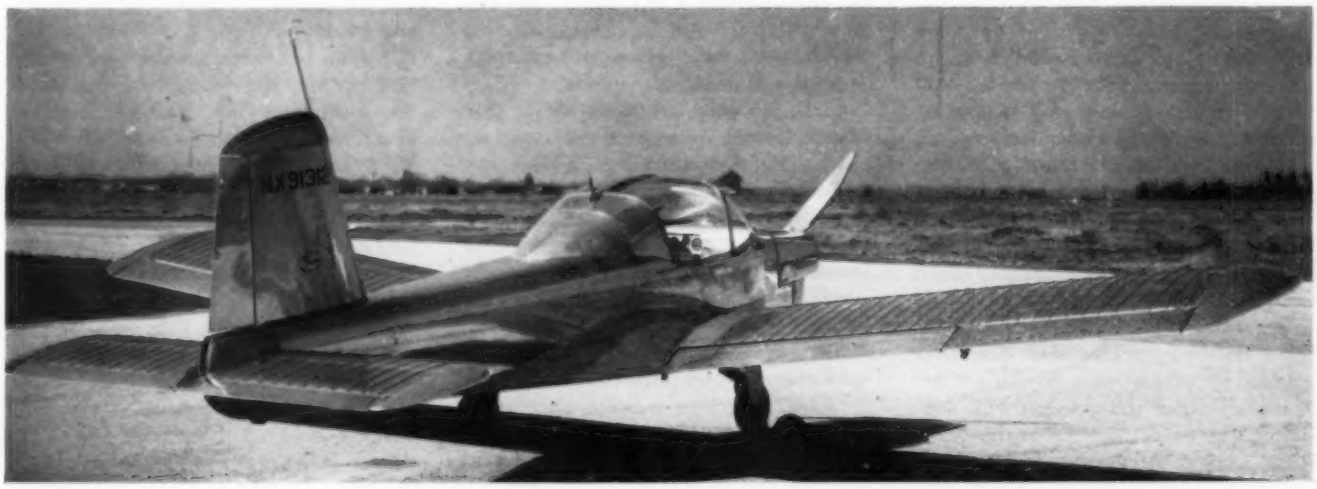
Full details of Thorp's unique production engineering gains are being withheld pending the start of deliveries. But those who have been permitted to study the airplane respect it as a significant achievement in engineering, capable of going far towards meeting modern lightplane requirements in utility, costs and performance.

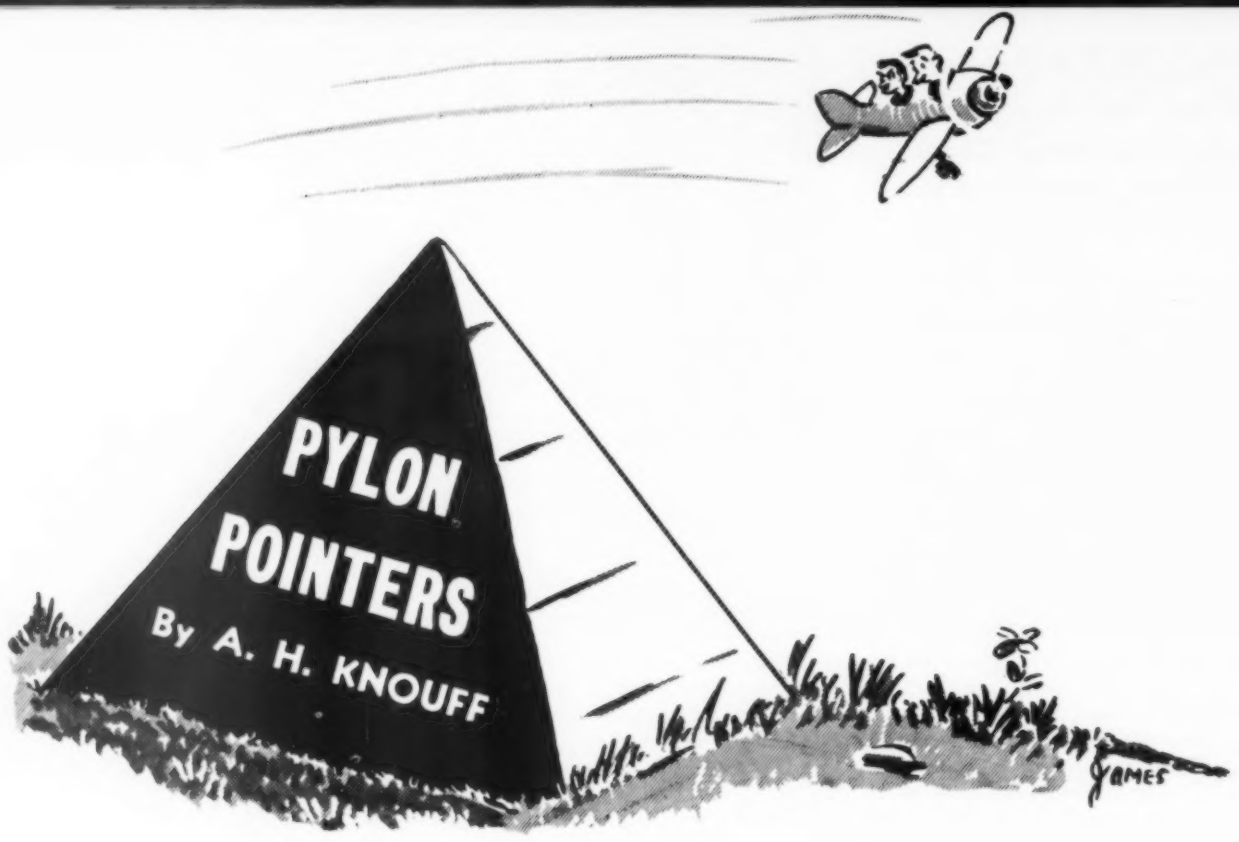
"Actually, the whole approach to the Sky Skooter was not to build an airplane that is necessarily better, but an *honest* airplane," Thorp explained to us. "That factor—and cost reduction—will always be our primary goal. The Sky Skooter is as honest an airplane as has ever been built."

Private flying stands to profit immeasurably from the great amount of engineering and tests which have gone into the West Coast's newest design.

★ ★ ★

Three-quarter rear view emphasizes movable stabilizer, small rudder, large vertical fin area, 18-gal. gas tank above and behind seat and provision of flaps. Thorp describes Sky Skooter as 2-control design, capable of normal turns with stick alone (no wheel in prototype), but small auxiliary rudder is provided and is independent of synchronized aileron-elevator controls.
—(Thorp Aircraft Photo.)






**Ever hear of the Magic Circle? It can help you master pylon 8's and crowded traffic patterns.**

WHY do we teach figure 8's? Certainly not to fly around a house low enough to wave to girl friends. Nor is it merely to meet the requirements of a flight test.

There are times when you must make turns which follow a definite path over the ground. Sometimes they must be made at low altitude. In fact, you must do so every time you take off, circle the field and land. When you make such turns, you have to think about where you want to go as well as what to do to make the airplane go there. You can't stare at the nose, or at the air speed indicator, or at the tachometer, or at the altimeter, or at the ball-bank indicator. You have to divide your attention between these and the ground. You must imagine the ground pattern you want to fly, observe the effect of wind on your path and plan what to do next to make the airplane follow the path you have in mind. To cap it all, you must never forget that other airplanes are using the sky, that nature gave you a flexible neck for the purpose of avoiding danger from all directions.

We teach figure 8's because they enable you to practice turning both to the right and left, up-wind and down-wind. They are included in flight tests to see how well you have learned to divide your attention between all these things—without neglecting any of them. Yet many pilots work hard to perfect their figure 8's in order to pass a flight test, only to forget to apply the same principles to ordinary turns around the airport.

Figure 8's around pylons are tops among exercises designed to develop ground-path consciousness and wind consciousness. Your instructor will teach you simpler maneuvers, such as S-turns and rectangular patterns, before you tackle figure 8's. Basically, they are all turns with wind correction. All turns are parts of a circle. So let's start talking about the "magic circle", which you can change to conform with any of these maneuvers.

First, draw a circle, divide it into quarters, and number them counter-clockwise. We number them this way because it is the sequence followed in take-off and landing. The center of the circle is a pylon. The wind is coming from the north (top) of the circle. We are in an airplane flying counter-clockwise around the circle.

In high school geometry we were told that the circumference of a circle is made up of an infinite number of straight lines, each running a different direction. It did not seem important at the time because we had not yet been up in an airplane. At any infinitesimal point on the circle, our airplane is flying in a straight line.

When you fly over a road that is directly into the wind, the nose of the airplane is pointed straight down the road. To keep the airplane flying straight along a road which is cross-wind, you have to point the nose a little to one side of the road, toward the side from which the wind is blowing. You can apply this to flying a circle around a point by remembering that it really is an infinite number of straight lines.

At the bottom of the circle we have drawn, our airplane will be flying directly cross-wind. So the nose will be pointed toward the center of the circle, the inside wing will point behind the pylon. At the top of the circle, the wind is from the other side of the airplane and the inside wing will point ahead of the pylon. Halfway between these two extremes, our airplane will be flying directly into or away from the wind and the wing will be in line with the pylon.

The up-wind side of the circle tends to be squeezed in because the wind is pushing the airplane toward the center. To counteract this, you have to make a wider turn by banking less. The down-wind half tends to be stretched out—you must turn more sharply to keep from drifting away

*(Continued on page 22)*

# MERCY BY AIR

Texas City's small airport was clogged when this picture was made five hours after explosions wrecked the waterfront (background).
—(Dallas News Photo by Squire Haskins.)

By WILLARD C. HASELBUSH

JUST one hour and fifteen minutes after the explosion of a nitrate-loaded French freighter touched off a chain of death in the little Galveston Bay industrial town of Texas City last month, the first mercy planes were circling for a landing on the community's small turf airport. Thus began the greatest peacetime emergency aerial mercy operation in aviation history, in which hundreds of airplanes hurriedly mobilized aid from twenty far-flung localities in thirteen states.

But for the airplanes, the disaster's toll of approximately 500 persons killed or missing and 2,500 injured would have been higher. Air traffic controllers operating from an emergency radio truck on the little airfield, improvised nerve center in a pattern of larger airports at nearby Houston and Galveston, cleared nearly 4,000 airplane take-offs and landings. Incoming the planes brought doctors and nurses, Red Cross officials, tons of blood plasma and embalming fluid, gas masks, food, foamite to smother the fires, asbestos flame-fighting suits, bedding for the homeless. Outgoing, they shuttled the injured to hospitals.

"Without the swift help brought in by air, the death toll would have been higher and the suffering more terrible," said Mayor J. Curtis Trahan of Texas City. "We needed help in volume and we needed it fast. The airplanes got it to us."

Military, airline, Civil Air Patrol and private airplanes rushed aid to the scene from as far as California, Colorado, North Dakota, Illinois, Pennsylvania, Massachusetts and Georgia. Chief CAA Air Traffic Controller Robert J. Larsen at Houston said between 3,000 and 4,000 air operations—landings and take-offs—were cleared.

The CAA ordered an emergency control tower set up in a truck at the Texas City airport, which is minus a traffic control system. Larsen said the CAA first borrowed a jeep from the Army and used it to generate power for a signal lamp gun until the transmitter and radio receiver could be set up in a truck.

The CAA operated its emergency tower continuously from 8 p. m. on the day of the first explosion. The control tower picked out the top priority loads as planes circling aloft began to pile up and brought them in. Dozens of other craft were directed by radio to Galveston or Houston—depending on the urgency of their cargoes.

As in every disaster, lack of instantaneous direction of relief and rescue efforts resulted in confusion among aircraft and pilots participating. It was everyone for himself until hours later when the first traffic control jeep began operations. But from the experience can be drafted plans for such emergency measures by the Civil Aeronautics Administration, Army, Navy, airlines and Civil Air Patrol. Hundreds of airplanes of all types are always instantly available but the problem is to co-ordinate their operations, especially to channel private owner aircraft into the most effective utilization.

Two air accidents occurred at the moment of the first explosion. A lightplane carrying Fred Brumley and John Norris of Pelly, Texas, took off at 9:02 a. m. from the Texas City airport. Brumley and Norris planned an hour flight over the waterfront. Ten minutes later their ship was 1,500 feet over the Monsanto chemical plant. The Grand Camp blew up, touching off the chemical plant, and the concussion caught them. The plane crashed on the waterfront, its back broken by the blast. A second lightplane also cruising nearby was crumpled in midair and plummeted to a small island in the bay.

First planes into the area were Navy hospital ships from Corpus Christi, according to the Galveston tower. They landed at 10:30 a. m. Right behind them was a flight of seven C-47's from Brooks Field at San Antonio.

### Airlines Donate Planes

All commercial lines in the area offered and gave assistance. Pioneer Airlines donated three passenger planes and one cargo ship to relief agencies and made eight freight runs between Houston and Texas City carrying blood plasma, embalming fluid and medical supplies in two-engined Lockheeds.

Braniff International Airways sent its DC-3 executive ship from Dallas loaded with newsmen directly to Texas City. Before noon Braniff had a newly-converted DC-4 cargo ship en route to Houston from Dallas loaded

*(Continued on page 38)*

Bird's-eye view of the Tennessee Valley, whose 26 multi-purpose dams make it the most completely developed river system in the world. Ideally suited for float-planes (below), the Tennessee's waterways are marked with bouys and offer mile after mile of liquid runways.

(Photo by Ross-Pix)

# Float Flying in the Great Smokies

By GENE SLACK TEAGUE

**The Tennessee Valley, with well-stocked lakes and more than 1,000 miles of liquid runways, is home sweet home to the flying fisherman.**

FOR the man with a seaplane rating, Tennessee is home sweet home. More than 1,000 miles of river, or 900 square miles of water runways, greet the sportsman who brings a floatplane into the Smoky Mountain country. Here the Tennessee Valley Authority's vast chain of 26 lakes, with shore lines of 6,000 miles, await the smack of floats and the light swish of a fly rod.

Serving the people of seven states, TWA's water airports need no grading, no paving and no purchasing of property. No lawsuits are pending from irate adjoining property owners. Cross-wind landings are unknown here. Whichever way the wind blows is down a vast, rippled runway.

These bodies of water are ready for immediate traffic as far as their physical aspects are concerned. From Kentucky Lake on the lower Tennessee River to Norris Lake on the Clinch River, buoys mark the waterways like airport boundaries, indicating depth ranging from 9 to 200 feet. Since most amphibious aircraft and float planes draw no more than 17 to 20 inches, all this water is safe for landings. Currents are negligible and the flow of rivers is scarcely noticeable anywhere except just below the dams. The change in water level is too slow to hamper landings and take-offs and there is little danger of floating debris.

From Nashville, which lies in the center of the loop formed by the TVA chain, you could use either amphibious aircraft or moor your float plane on the Cumberland River. Flying most amphibious aircraft you would be about one hour's time away from practically any of the lakes.

By car from some cities it's a long trip to the lakes and places are hard to find when you get there. If you own an amphibian, however, you merely stow bait and rods and pick your lake. Arriving at your destination—perhaps Kentucky Lake or Chickamauga—you circle the area looking for a suitable cove. Spotting it, you land and taxi into the inlet. A shady spot near the bank looks good. You either drop anchor or beach the plane. Now you're ready to go with that fly rod.

If you decide to spend the night, you have two alternatives regarding food. By bringing your own, it's a simple matter to start a fire and cook supper. Or you may go ashore at one of the docks equipped with a lunch counter. Bed-time is no problem if your amphibian is like the Seabee. You merely fold down seats, spread your blankets

and let the waves rock you to sleep.

If you make the trip in hunting season and have not brought your own rubber duck boat, you can run in to the nearest dock and rent a boat. More than 100 of these docks are available along the TVA chain.

The status of the lakes for air-vacation travelers is in the development stage as far as gasoline and plane servicing facilities go. Amphibious aircraft approaching the lake area will do well to gas at large airports near the lakes. The larger docks sell 78 and 84 octane gasoline.

### Where To Go

For the air-vacation traveler, Norris Lake offers the most well-developed area. The first of the chain to be built, this lake has a five-mile beach and seven docks—the largest and best equipped being the TVA dock near the west end of Norris Dam. All the docks have boats, cabins, guides, fishing tackle and light lunches available. Dock managers will assist the visitor in getting transportation. Norris Park, which adjoins the lake, has 3,887 acres of primitive area for hunting and fishing. Fishing is good and there is no closed season. Contrary to the usual loss of poundage when a stream is dammed, the poundage of fish taken out of the Tennessee increases each year. Most of the prevalent species of game fish are black crappie, crappie, walleyed and sauger pike.

Pickwick, lying in Alabama and Tennessee, is the next best developed lake from the recreational standpoint. Pickwick Park, on both the north and south shores, has 1,700 acres. The lake has six docks, with light lunches and overnight accommodations available at each dock.

One of the largest and newest lakes is Kentucky Lake, where duck hunting is best. This lake has four large docks, the best of them being Kentucky Lake State Dock near Murray, Kentucky.

Docking facilities (including lodging, meals, and boat service) at other lakes are: Blue Ridge Lake, with two docks, near Blue Ridge, Georgia; Chatuge Lake, 16 docks, the largest being Hendrix Dock, four miles from Young Harris, Georgia; Cherokee Lake, one dock, Hamblen County, two miles from Morristown, Tenn.; Chickamauga Lake, three docks, the largest being TVA Boat Dock, seven miles from Chattanooga, Tenn.; Douglas Lake, eight docks, Swann Farms Dock, four miles from Dandridge, Tenn., being the best equipped; Fort Loudoun Lake, nine docks (two seaplane bases), service to Great Smoky National Park; Guntersville Lake, nine docks, Mud Creek Dock, eight miles from Scottsboro, Alabama, offers best services; Hales Bar Lake, three docks, limited facilities at Davis Boat Dock, 14 miles from Jasper, Tenn.; Watts Bar Lake in Kingston, Tenn., seven docks, Kingston Dock best; Wheeler Lake, eight docks, Second Creek Dock four miles from Rogersville, Alabama, best dock, and Fontana Lake with one dock, two miles from Fontana Village, North Carolina (nearest lake to Smokies).

Flight operator R. P. Neal of Knoxville was one of the first to open a vacation travel service from Knoxville to nearby lakes. Since then, TVA reports many other operators have applied for permission to use portions of the shorelines for mooring space. Farris Thomas of Knoxville has one of the best spots of operation on the chain. He has docks on the river right beside the Andrew Johnson Hotel in downtown Knoxville and operates into the lakes. He already has one landing ramp at Fort Loudoun Lake and contemplates others.

Buford Sanders, of Vick-Erhart Flying Service in Nashville, expects to begin charter operations and flight instruction from the Cumberland River by mid-summer. Other operations are still in the planning stage with materialization probable by the end of summer.

Tennessee's Bureau of Aeronautics, which realizes the business potential of the lake areas, is scheduling a sort of cavalcade in which business men, representatives of seaplane and amphibian manufacturers, government officials and newsmen will fly the entire chain stopping at various large towns along the route for Chamber of Commerce meetings. From this aerial survey, they hope to evolve some concrete program for the development of Tennessee's vast water landing areas.

Col. Herbert Fox, director of the Bureau, said, "We will help and encourage development of air travel in the lake area as much as possible. Though Federal funds cover seaplane facilities we believe that immediate development lies in the hands of private enterprise since so few cities realize the lake potential." ★ ★ ★

Amphibious craft like the Seabee (above) are excellent for fishing the Tennessee chain. Gold Point Dock (right), on Chickamauga Lake, is typical. Cold drinks, light lunches and boats are available and cabins are planned.

## PYLON POINTERS

*(Continued from page 18)*

from the pylon. The steepest bank will be at the extreme down-wind point on the circle and the gentlest bank will be at the extreme up-wind point. Between these two places, the bank will be continuously changing. Flying toward the wind in quadrants 4 and 1, the bank will become less and less. Flying away from the wind in quadrants 2 and 3, it will become steeper and steeper.

The angle of bank at the steepest point depends on the strength of the wind and distance from the pylon. The stronger the wind, the steeper the bank; the farther from the pylon, the less the bank. You have to plan your circle to be far enough from the pylon that you will not have to exceed the degree of bank specified by your instructor, or the maximum bank the airplane can do. Therefore it is safest to start on a down-wind heading and fly through the steep half of the circle (3 and 4) first, so that you can tell at once whether you are the right distance from the center to establish the desired bank at the steepest point.

If you start around the shallow side of the circle first with a moderate bank, you might begin too close to the pylon in a strong wind and have to bank so steeply on the other side that the airplane would start losing altitude before you realized it. This is one reason you are told to do figure 8's "into the wind."

Carry a picture of this circle in your mind whenever you are making a turn near the ground. Imagine your intended flight path as such a circle, or part of it, laid out on the ground with the quadrants arranged in proper relation to the wind. If the wind shifts while you are making the turn, your imaginary circle must also be altered. In some parts of the country, strong local shifts of 180 degrees are common. Your magic circle can be changed as often and as much as the wind—if you don't straight-jacket your imagination.

The first rule defining "around pylon" maneuvers is to *keep the same distance from the pylon* all the way around. If you get closer to the pylon, it may be (1) you are banking too steep, (2) the inside wing is pointing too far back, or (3) the wind has changed. The first two may be your fault, or may be caused by number three. Whatever the cause, moving toward the pylon indicates that you are turning too sharply. You must widen the turn by reducing your bank —rudder and aileron away from the pylon until the correct radius is restored. If you get farther away from the pylon, the errors and correction are reversed.

Most of your trouble will be noticing the change in radius too late, then correcting too much or holding the correction so long that you make the opposite error. In a very gentle wind the apparent movement of the pylon in relation to the wing may be only a couple of inches during the entire maneuver. In still air, it will not appear to move at all.

### Don't Slip or Skid

The second rule is don't *skid or slip*. Causes of these are the same as in any turn. You are more likely to skid or slip while circling around something on the ground because you can't devote all your attention to making a good turn.

On the up-wind half of the circle, the airplane will appear to be moving sideways to the left. In fact it will be moving this way in relation to the ground. This is okay, as long as your distance from the pylon remains the same. But you may think you are slipping to the left and reduce your bank with right aileron. When you reduce the bank you will start moving away from the pylon, and are quite likely to head back toward the pylon by using rudder. You know that this is wrong, but you don't realize what you are doing because your mind is on something else.

In the down-wind part of the circle —flying through quadrants 3 and 4— you may remember our warning against steep banks and try to keep the bank from getting steeper by pushing outside aileron while pulling the airplane around the curve with inside rudder. This is even more dangerous than banking too steeply. Although both are bad, the skid is far more dangerous than the slip.

If you slip on the down-wind half of the circle, it will probably be for the same reason that you tend to skid on the up-wind half. You see the ground moving sideways under you—only this time it appears to be sliding the other way—and think you are skidding. You correct for the skid you are not doing, with the result that you put yourself in a slip. While this is not as dangerous as skidding, it is nothing to be laughed off. It steals altitude right out from under you. If you do not wake up to what is going on soon enough, you may not wake up until the tree which is supposed to be 500 feet below you slices off a piece of your wing.

### Your Ears Can Help

The third rule for circling around a pylon is *maintain a constant altitude*. The most common cause of gaining or losing altitude is failure to control your air speed. If you are flying an airplane with a fixed-pitch prop, your ear should warn you of a change of altitude quicker than a rate-of-climb indicator. If you start diving, you will hear the motor speed up. If you start climbing, you will hear it slow down. In the first case the cure is to increase back pressure on the elevator—*gently*. In the second case, ease off the back pressure.

Since the degree of bank is constantly changing in these maneuvers, the amount of back pressure will also vary throughout the circle. The change is so slight it is quite easy to overdo it, or underdo it. If you think you hear a change in the sound of your engine, *check your air speed and tachometer*. If they show an increase without your having moved the throttle, you may be pretty sure you are diving—and vice versa. Failure to check these instruments may result in a dangerous error.

Suppose you think you hear the engine speed up. Without checking your air speed you reduce power. Presently your altimeter shows a little loss of altitude. Again, without checking your air speed, and forgetting that the throttle is the proper altitude control, you may pull back on the stick. This reduces your air speed. If you don't come out of the haze at this point, things become a little complicated. With less air speed, you don't need as

*(Continued on page 42)*

## This Month's Moron

*Student Jones buzzed his house*
*With a sassy, "Aw, I know how."*
*They found him in a cornfield,*
*Using the prop for a plow.*

—Davis F. Boone
Marshall, Texas

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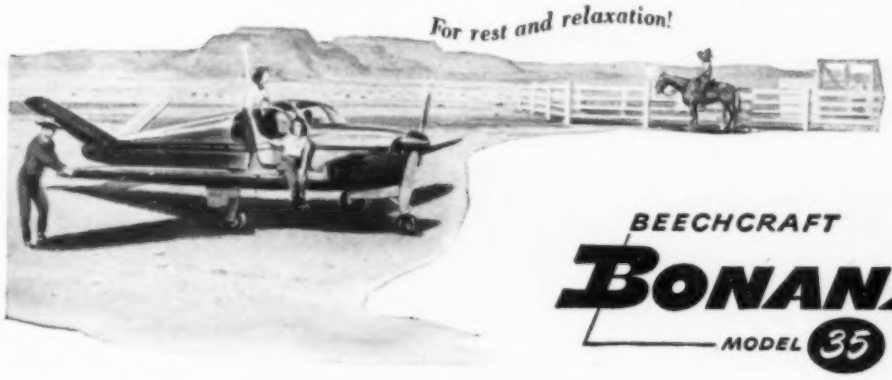


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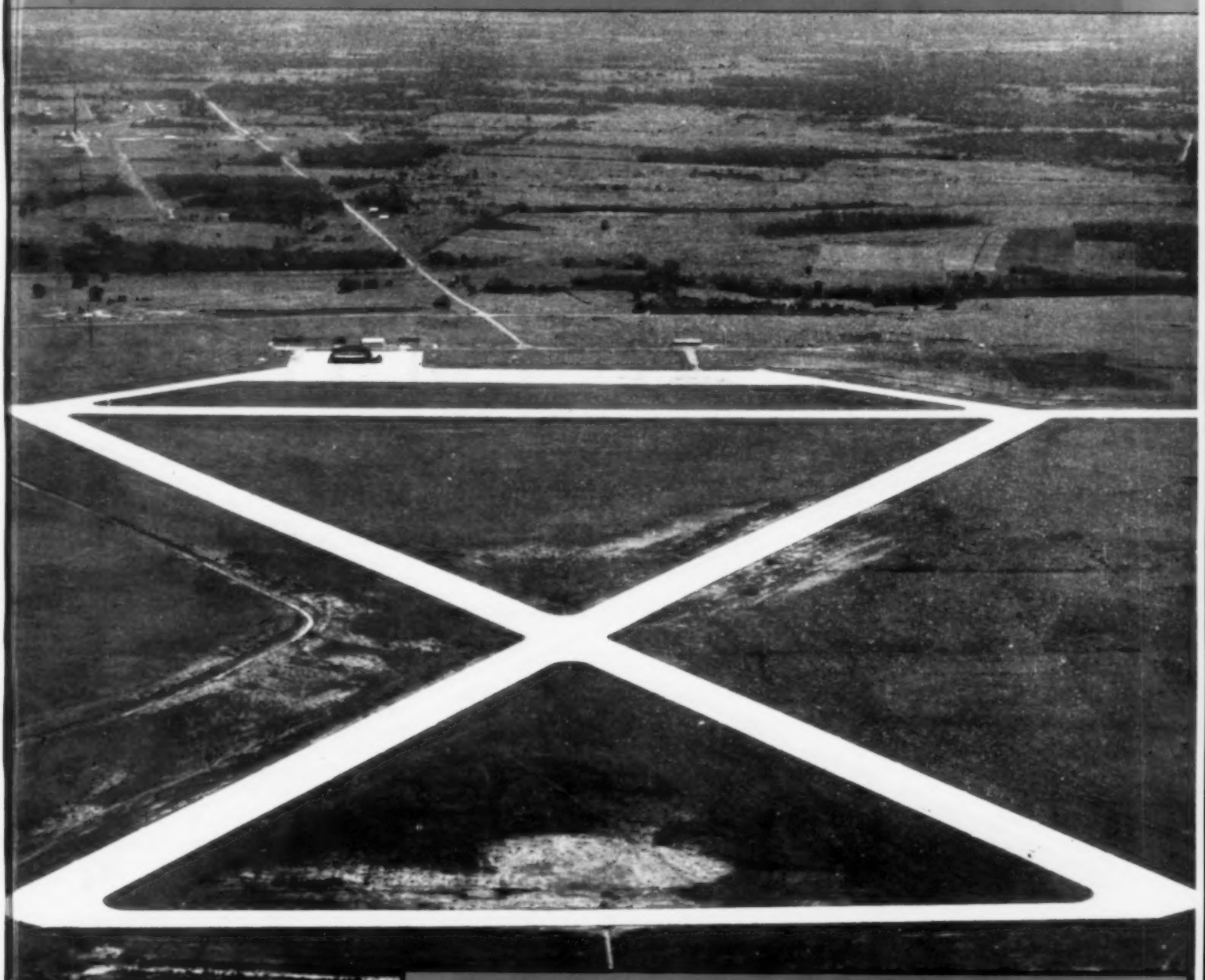
VOL. VII, NO. 3 MAY, 1947

# Modern AIRPORTS



Municipal airport at Hope, Arkansas, is largest in the state, has runways 5,500 ft. long and 150 ft. wide. Located 5 miles NNW of Hope, field has 80 and 91 octane gasoline, runway lights, revolving beacon, hanger and shop facilities (see page 34).

## THIS MONTH

**Terminal Facilities for Air Freight—**
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Airline efficiency was improved by use of ramp trucks pulling freight carts train-fashion to planeside, where fork-lift boosts freight to cargo door level. —(American Airlines Photo.)

# Terminal Facilities for Air Freight

**Ingenious powered equipment has been developed to lower costs of loading and unloading.**

By JEAN H. DuBUQUE
Air Cargo Consultant

AIR freight, as a new industry, has expanded with such rapidity during the past year that numerous ground handling problems have arisen, solutions to which require new and ingenious methods and devices to speed and simplify the loading and unloading of varied types of shipments. Tools for ground handling which have already made their appearance may not be the final answer. But they have contributed significantly to the success of air freight by lowering costs and eliminating much handling. They mark the start of an intensive development program.

Previously, air cargo handling was rather routine. Trucks brought shipments to or from the airplane. Handlers relayed it manually. As shipping by air took hold, especially in foreign areas where terrain and lack of surface transport made air carriage essential, special equipment was evolved. This ranged from block-and-tackle loading structures to tractors, trucks, gravity devices such as slides, roller and powered conveyors, gin poles and the like to specially-modified transports such as aerial tankers for liquids.

Many of the experimental methods proved slow and costly, particularly when applied to scheduled domestic air transport, where waste of time and labor at each stop dissipate air shipping's major advantage — speed. Inefficient handling ballooned freight charges.

Faster flight schedules and increased loads served to emphasize the need for reducing the time element in ground handling. This need was a challenge to the ingenuity and skill of airline engineers and the equipment manufacturers. With all cargo services striving for an ultimate cost between 8 and 15 cents per hundred pounds for ground handling, it was obvious that flexible, mechanized equipment was a "must." Out of trial and error and through engineering have come such devices as the loading platform, belt conveyor, fork-lift tractor, high-lift truck, trailer trucks, mobile tub carts, cargo chutes, high-lift platform trucks and various types of preloaded containers and pallets.

As far as ground handling is concerned, most of the air services are faced with the fact that aircraft door heights and dimensions are far from standardized. More than brawn is needed to lift bulky cargo into the aircraft. Also, with the growing volume of shipments, greater variation in size, density and weight is making manual handling awkward and slow.

Some of the scheduled air cargo services, in order to load shipments through the high front door of the DC-3, use lightweight metal stands with platforms at different levels. This is suitable for packages of moderate weight but heavier items require mechanical lifts.

### Cargoveyor for Varying Levels

To solve this problem, the "Cargoveyor" has been employed. Mounted on a 4-wheel chassis with a fifth wheel steering mechanism, this devivce is completely portable and can be quickly rolled into position. The hydraulic lift mechanism raises it from a horizontal position to the required delivery height (up to 10 feet 6 inches at a pitch of 25 degrees) in a matter of seconds. This portable machine can convey a distributed load of about 750

pounds at a speed of sixty feet per minute.

The Cargoveyor is built in a standard length of 18 feet and consists of an electrically driven, reversible, endless belt with belt motion control possible from either the ground or inside the airplane. The master motor operates from a standard 110-volt, single-phase lighting circuit. All of its wiring, of rubber cable with seal fittings, is completely water and spark proof. For night operations, each unit is equipped with strong lights. Cargo handling accidents have been greatly reduced with its use, mostly those resulting from attempts to lift very heavy packages by hand.

### Versatility in Fork-Lifts

Both the scheduled and non-scheduled air cargo carriers are finding the fork-lift a most satisfactory means of handling bulky shipments. This machine is a low-geared, four-wheeled tractor with a hydraulic elevator of 4,000-pound capacity on the front. This elevator consists of two 30-inch arms which slide easily under preloaded pallets or cargo tubs in order to lift them to the door level of the aircraft. The fork-lift can hoist a load to a height of 14 feet above the ground. Since it is a highly mobile unit, it can tow trailer trucks or tub carts in a train to the airplane from the cargo dock.

Airport workers consider the fork-lift an indispensable "work horse" since it can be used for numerous tasks around the hangar, store room and airplanes.

One major airline has developed a combination truck and belt loader. The truck is a standard 3-ton cab-over-engine model with a working platform mounted above it for DC-3, DC-4 and DC-6 loading and unloading. On each side, access ladders are provided for reaching the platform. The belt-loader, located on the right hand side, is inside the truck, and is operated at speeds up to 75 fpm. A hydraulic pump installed on the truck engine supplies the necessary power.

The main advantage of this combination is that cargo can be moved out to the aircraft inside the truck body and protected during inclement weather. In operation, the belt emerges from a hatch in the roof of the truck and may be extended above the truck body to the desired door height by means of a hydraulic cylinder. "Off" cargo is removed from the aircraft and placed on the left side of the platform, after which the "on" cargo is lifted to the proper level for handlers to separate it for loading. A fork lift can be readily used in conjunction with the truck for hoisting additional cargo to the platform. When not in use, the truck can be conveniently moved off the ramp.

### Truck with Lift Body

Another flexible piece of equipment is the lift truck, the body of which

AAF developed this portable loading dock at San Antonio depot during war. End is hydraulically adjustable to meet door level. Freight carts thus roll from warehouse across ramp directly onto plane floor.
(AAF Photo.)

may be raised to 12 feet above the ground by means of a hydraulic lift mechanism connected with the motor of the truck. It is capable of hoisting 8,000 pounds and may also be used for transporting a full load of cargo directly to or from the door of any type aircraft. Its use can also be combined with the fork-lift, especially when large shipments have to be moved some distance to the aircraft. For instance, the fork-lift can raise the cargo from the ground level for placement in the truck bed and the truck in turn can move it to the aircraft. With pieces weighing 500 pounds or more, it would normally require five men and much tedious work to load the units, but by using the fork-lift and truck, it can be easily accomplished by two men.

In the opinion of some, the chute method of unloading cargo has proved the fastest. These chutes, 136 inches in overall length and 29 inches wide, operate on a principle similar to a playground slide. They are constructed in two sections with the upper part approximately 56 inches long with 11¾ inch sides; the lower section, 80 inches long, has 8-inch guards on each side. They are made of maple slats and have plywood supports.

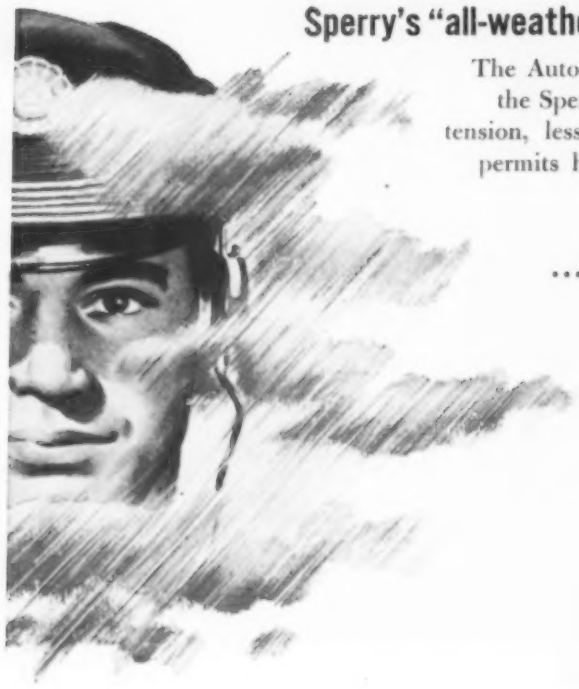
When the airplane arrives at the unloading dock, the movable chute is rolled out to the door of the airplane and a truck or tub is placed at the lower end to receive the pieces as they slide from the pit for sorting in the mobile ground unit. Three handling operations are eliminated by this method with considerable saving in time.

### Monorail Basket System

A very ingenious device which promises to revolutionize ground handling methods and greatly reduce loading and unloading time is being installed in the new DC-6 by one major airline. Since these airplanes have been designed with cargo pits beneath the main cabin floor, a monorail system is employed whereby preloaded pallets are rolled into the pits. With this system it is possible to load 5,400 pounds of cargo in less than 5 minutes as compared with 30 minutes or more without the pallets.

*(Continued on page 30)*

Heavy-duty "Cargoveyor" has endless belt powered by tractor to carry freight at varying levels. Same belt can be installed in van truck covered against weather.
—(American Airlines Photo.)



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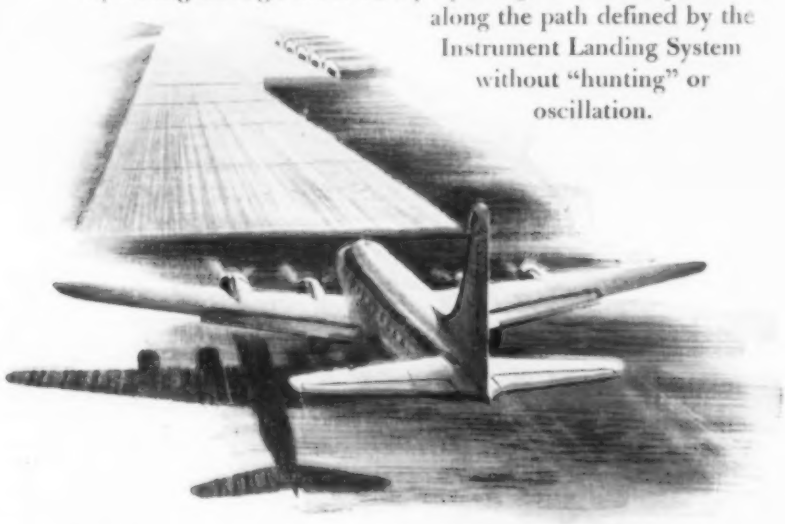

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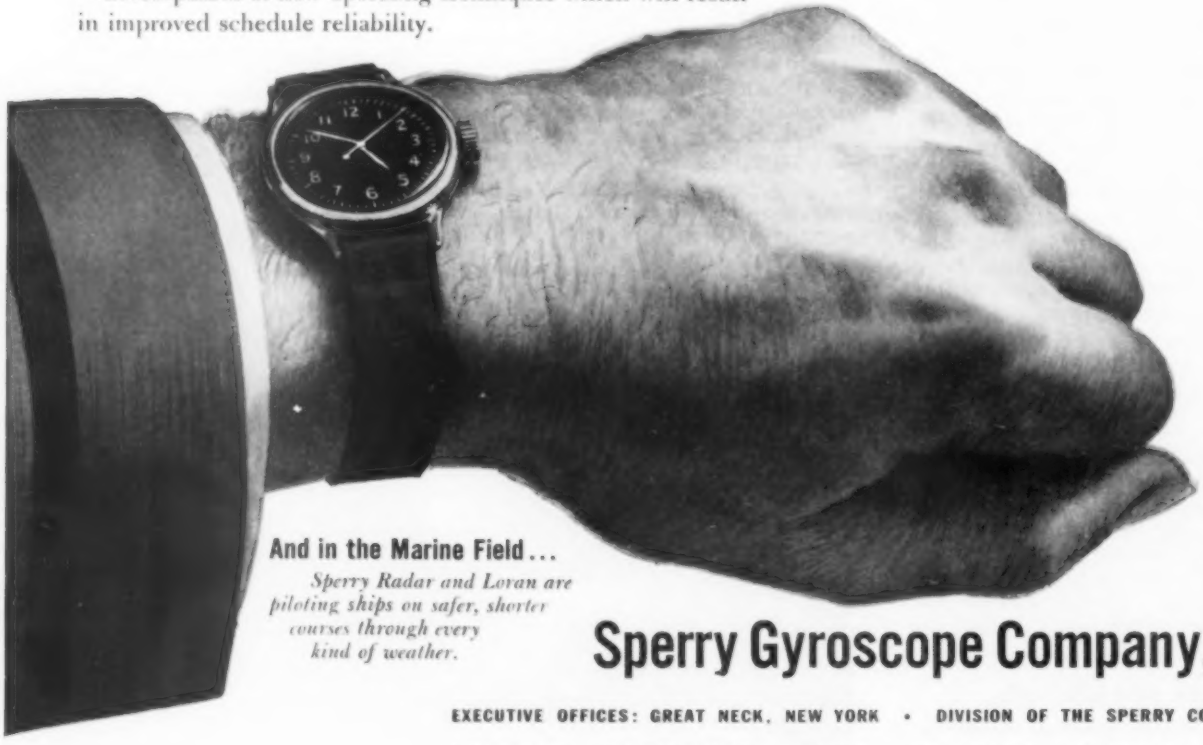

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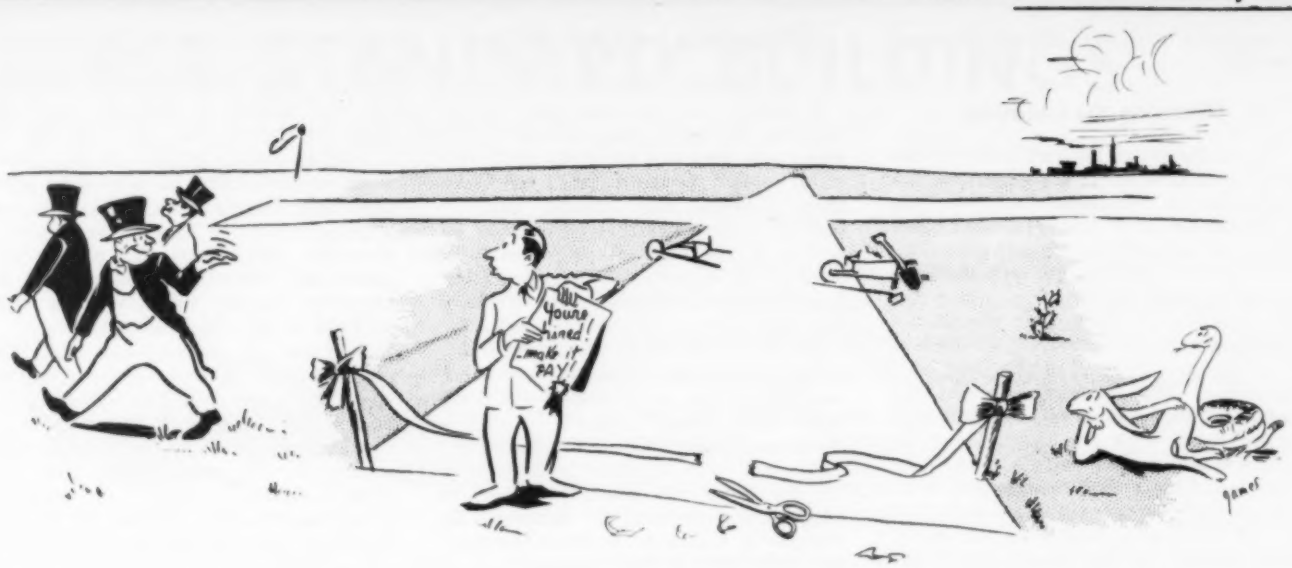



# Planned or Post-Mortem Airport Management

**The airport manager can show better returns if allowed to participate in original planning for new airport location and design.**

By JOHN H. FREDERICK

AIRPORT management, in every sense of the word, should begin as soon as engineering planning and construction if we are to achieve the self-supporting airports everyone wants. Airport planning, judging from many of the results, has too seldom realized the great responsibility in the initial decisions regarding the site selected and the relation of the building areas to the landing area. Perhaps this has been because, until very lately, we still thought of airports simply as places where aircraft could safely land and take off. Now the more enlightened are adopting a new concept of what properly planned and developed airports can really be from the management point of view.

## Airport Potentials

An airport becomes a concentration point not only for air commerce but for other aspects of business as well. Under this concept the function of an airport and its relation to a community as a whole are changed and enlarged and management assumes a more important position or function. Actually an airport is a potential commercial, retail and industrial area created by the centralization of air commerce at a certain landing point. From the revenue standpoint this concept is of first importance since scores of opportunities for the development of non-aviation revenues will come to mind as soon as its meaning is fully grasped.

As time goes on it will be more fully realized than it is today that the most important factor in the success of an airport is its earning power. Earning power is based on at least three elements, all equally important. The first of these is, naturally, location. From an earning viewpoint an airport is a business enterprise. It should, therefore, be where it can attract business of all sorts. This is true whether an airport is public or private. It is essential that an airport be located in an area with the highest potential source of trade and thus revenue. This location may not be on the cheapest or the flattest land. The site may require a good deal of work to construct the landing area but even so, as a concentration center of air commerce, the site must be accessible to as much trade as possible from areas surrounding it or because a volume of highway transient trade may be tapped.

## Non-Flying Revenue

There are three chief sources of non-flying revenue on an airport: (1) Persons working on and around the airport itself, (2) persons who may pass by the airport or near to it enroute elsewhere, and (3) the curious or general shopping public coming with a specific idea of purchasing some commodity or service.

It naturally follows that the second most important element for a successful airport is its provision of earning facilities. Instead of pouring all the available funds into overly-elaborate landing and take-off facilities, something substantial should be allocated to providing revenue-producing facilities. Most airports could double their revenues if they had more places where people could spend money. However, the construction of earning-power facilities must be planned along with the planning of the airport itself or there will not be the necessary balanced operation which is financially justifiable. High revenue return cannot be expected without providing facilities in which, or on which, people can spend money.

## Management in Planning

The third element is management. It has been the practice to hire airport management only when the construction is completed. Whoever is employed is then expected to develop a profitable airport operation without excessive charges to any user, especially the aviation user. The latitude given to management is often pitifully slim.

After all, haven't the omniscient technical people already constructed the airport and its facilities? The location has already been decided upon

irrevocably and with the blessing of the CAA.

### Choosing the Location

Many times the airport location has been chosen without a thought to the management problems—only to the engineering. This is one of the basic faults of present-day airport planning. In the last analysis the engineering, planning and construction personnel are involved in the project for only a comparatively short period of time—just the period of planning and construction. The management and administrative personnel are, on the other hand, with the airport for its life and an airport lasts a long, long time. Not only is management held responsible for airport operations, but also directly accountable for the financial success of the project and the service it renders to its owners.

Since management will eventually be responsible for the operation, it must be permitted to establish the facilities needed at the same time the landing area is being planned and constructed. The frequently excessive charges which have been levied on aviation users, or will be levied upon them in the future, are often due to the lack of management foresight in the development of other sources of airport revenue. Management must be given the chance and the tools with which to work and at the same time must be permitted to deal fairly and in a business-like way with the various revenue-producing activities which may be attracted to an airport.

### Plan for Progress

Ideally, a municipality or other airport owner should hire a manager when planning first begins. This is seldom possible but there are a number of management-wise consulting organizations specializing in co-operating with local and other engineering firms to see that airports, when finished, will:

1. Be adequate to serve the needs, present and prospective, of the community or area.
2. Attract new commerce, industry, trade and economic wealth to the community or area.
3. Create and assist in creating new communities of interest with other areas.
4. Provide for the use of practical and sound administration in the management and promotion of its facilities.
5. Be conceived, developed and financed in the best interests of the tax payers so that there will be no tax levy made upon them for its operation if at all possible.

These aims are not idealistic. They can be achieved. But only if management know-how, management ideas, and management foresight enters into airport planning, both new and for expansion, from the very start. Airport management starts with the site selection or even before. ★ ★ ★

## TERMINAL FACILITIES

*(Continued from page 27)*

Actually, the pallets are metal baskets, 65 inches long and 34 inches wide, and they are equipped with two small roller bearing trolleys. With these trolleys the baskets can be moved on overhead rails outside as well as inside the airplane. When fully loaded, the baskets can be rolled from the cargo dock directly to the airplane door and onto overhead cross-rails.

The monorail track system rails are of ⅜ inch H-section aluminum alloy installed on the underside of the fuselage floor beams, placed 50 inches apart and traversing the length of the cargo pits. The supporting cross-rails for the basket are 64 inches long and of the same lightweight material. To provide a wearable traction surface, the rails all have steel runners.

The cargo baskets weigh 19.84 pounds each and are constructed of aluminum alloy tubing with sides covered by web-like expanded metal, which permits the cargo handlers or inspectors to check the cargo compartments to determine whether any packages have been overlooked. Four of the baskets can be placed in the rear cargo pit and four in the forward pit.

Most of these new devices have been expressly developed for busy airports where ground personnel are working against time and costs. Further improvements can only come with experience and through the continued co-operation of equipment manufacturers and the air cargo carriers. The day when aircraft can pull up to an air cargo dock like freight cars pulling into a freight station is still somewhat in the future. Although it is claimed that eventually most cargo will be carried in aircraft specially built for this service, the majority of scheduled airline shipments for sometime to come will be combined with passenger flights. This means that the regular schedules have to be followed since air passengers are paying for speed and resent long hold-overs at airports. Ground handling time must be held to an absolute minimum.

Perhaps one of the most important steps recently taken to advance the air cargo industry was the reorganization of Air Cargo, Inc. Although serving as the cooperative ground service agency for the scheduled airlines, its vital mission to study and develop newer and better methods of ground handling, pick-up and delivery service, consolidation of air cargo terminal facilities and personnel, its findings will prove equally beneficial to the non-scheduled air cargo carriers.

Air freight can prove the leading revenue maker for the air transportation industry. There is ample justification for its service, although initial planning for organizing and operating such a system was not too sound. Many times the shippers and receivers have not had their needs satisfactorily met. This, however, may be partly attributed to the rapid growing stages. But because the need is there, because the means for serving that need exist, and because of the vision, energy and stick-to-itiveness of the many new operators, this lusty young industry is growing strong and full-fledged.

★ ★ ★

## REGARDING REVENUES

THE well-managed and profitably-operated airport is generally deriving between sixty and seventy per cent of its net profit from a source beyond aviation, Karl Voelter, CAA airport management section, told the recent Airport and Fixed-Base Conference at Purdue University. "National Airport at Washington has gone much farther than that," Voelter explained, "and now operates at an excellent profit and derives only about ten per cent of its net profits from aviation. The balance comes from concessions."

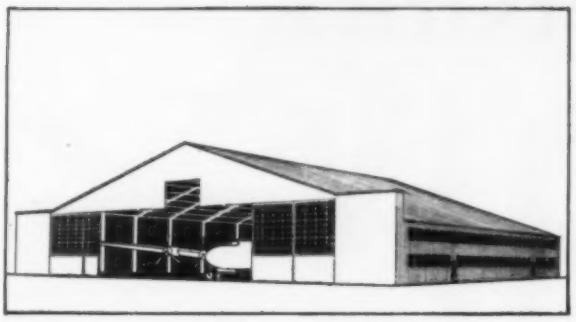
While all airports cannot be operated on this theory, since each airport has its own particular problem, good management and proper development of revenue can in most cases make an airport self-sustaining, Voelter believes.

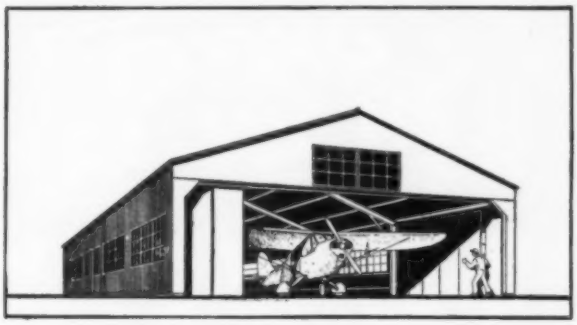
Chief source of non-aviation revenue can come from a well-run observation-type restaurant, Voelter said. "The general public is continuously in quest of better eating facilities, and it doesn't make any difference where they are," he pointed out. When conditions permit, a luxury cocktail lounge should be included in these facilities for non-aviation revenue, Voelter added. Transient hotel quarters at the airport are next in line as a source of potential profit, Voelter continued. While facilities similar to modern tourist courts are excellent, he believes plain clean quarters—all on one floor—and with private baths, will do just as well.

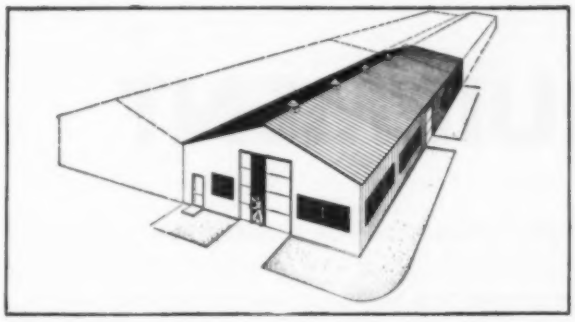
"Some of the simplest means have proven to be the greatest money makers," Voelter added. "For instance, a survey of sources of income at one large Texas airport (SOUTHERN FLIGHT, September, 1944) disclosed that the pay toilets at that field were bringing in more revenue than the airline landing fees. Then they discovered in short order that the pay telephones exceeded the revenue of the pay toilets. Naturally, there was a little conjecture as to the adequacy of the airline landing fees." ★ ★ ★

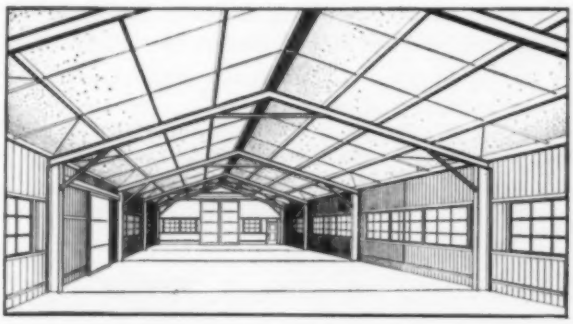
# LURIA STANDARD BUILDINGS

***FOR AIRPORTS AND INDUSTRY***









## MAINTENANCE AND STORAGE HANGARS

Luria Standard Hangars are available with clear door openings from 60 feet to 160 feet with contour clearances carefully chosen to accommodate all standard makes of planes. By allowing complete freedom of choice in length and in size and type of lean-to's, these Standard Units can be adapted to meet any combination of shop, storage and office requirements. All sizes of Luria Standard Hangars are designed in two weights — one to meet the load requirements of northern climates, and the other to effect the utmost economy for southern climates. Supplementing the Standard line, Luria is also prepared to design and furnish Hangars to meet any special requirements.

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Luria Utility Hangars are adapted from the Standard Industrial Building to provide a low cost, all purpose hangar for small planes. This building is particularly suitable for combination use requiring shop and storage space, offices and classrooms in one compact unit. Doors are precision built, pressed steel panels hinged together and hung on overhead track with self adjusting spring hangers. They are easily operated, rolling back inside building and providing a clear opening of 38'0" x 10'6".

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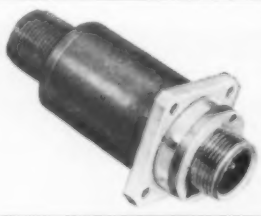
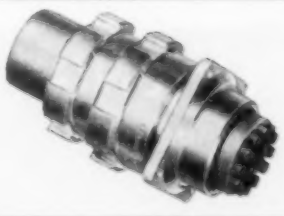
Bendix-Scintilla Radio Interference Filters are designed for insertion in aircraft ignition grounding circuits. Extremely successful in eliminating radio noise at very high frequencies.



Bendix-Scintilla builds both high tension and low tension aircraft ignition systems. The newly developed low tension systems are designed for extra efficiency, especially at high altitudes.

• • •

Bendix-Scintilla is also a leader in the field of Diesel Fuel Injection Equipment and is in wide use on railroad, marine and stationary Diesel engines.



Bendix-Scintilla Electrical Connectors are built in a wide variety of sizes and types. Precision-designed to give a pressure-tight, water-tight and radio-quiet assembly, they are performance-proved by thousands of installations.

Favorites of style jury were this white gabardine flying suit, designed by Cavu for the Flying L opening, and Beech's trim V-tailed Bonanza, exhibited by Distributor Jim Gray of Dallas.
—(William G. Langley Photos.)

**Something different in airport shows—an air-wise fashion rodeo by top sports designers.**

THE ritziest airport opening in aviation was held last month at Colonel and Mrs. Jack Lapham's swank Bandera Airpark on the Flying L Ranch near San Antonio, when Neiman-Marcus, fabulous style merchants of the Southwest, rounded up leading American designers and fashion experts and flew them in for the occasion.

Airport Manager Johnny Fielder and his wranglers filled in the program with numerous aviation activities while the fashion-plate notables paraded the latest garb for dudes, especially designed for the event, before an All-American Jury on Sports Clothes. The airpark's opening centered mainly around twelve luxurious vacationers' cottages and a swimming pool, just completed across the runway from the pilots lounge and hangars.

Notables taking part included Hollywood star and tennis champion Jinx Falkenberg; Jack Kramer, Davis Cup holder; Tex McCrary, flier-sportsman; Elizabeth Gordon, aviatrix-magazine editor; Mike Romanoff, socialite restaurant man; and designers Tina Leser, Claire Potter, Claire McCardell, Edward Loewy, Sylvan Stroock, Mabs of Hollywood, Louella Ballerino, Fred Cole, De De Johnson and about fifty others, including fashion magazine editors and writers.

The Laphams' Flying L is one of the nation's outstanding aviation resorts, a half-million-dollar flying dude ranch located 32 miles west of San Antonio in Texas' popular hill country. Its flying facilities include overhaul and complete services for airplane owners on vacation, as well as a staff of instructors.

★ ★ ★

Dudes on horseback watched the stylish aviation deal (above). At left are Elizabeth Gordon, Herbert Marcus, Jr., Jinx Falkenberg, Sally Kirkland, Stanley Marcus, Col. Jack Lapham, Mrs. Lapham, Jack Kramer, Tex McCrary, Frances McLaughlin and De De Johnson.

Waiting room and office (left) at Hope, Municipal Airport is neat and well-planned. Note map facilities for the cross-country flier. Other services include clean rest rooms, soft drinks and candy, direct telephone service and quick transportation to town.

### This Month's Modern Airport

# TAILOR-MADE AIRFIELD

UNLIKE many other communities, Hope, Arkansas, developed an interest in aviation in reverse order. While many municipalities spend years of arduous work planning and developing a municipal airport, Hope acquired a surplus military airport and then began developing local interest in aviation.

Not that the city hadn't considered following the routine method of building its own airport. Shortly before the war, the city purchased sufficient acreage just beyond the city limits for a municipal airport. Before work could be started, however, the Army restricted all local flying because the Southwestern Proving Grounds and ammunition testing facility was going in just four miles away. That was tough for local fliers, but everything —as in most stories—turned out for the best. The government would use planes in testing bombs, rockets and flares in conjunction with the war plant and, to service and repair these planes, the government constructed a big million and a half dollar airport.

Shortly after the end of the war, the government declared the plant and airport surplus and the City of Hope lost no time obtaining a right of entry and use in July, 1946, securing a title early in 1947 and officially dedicating the new municipal airport on April 27.

This excellent field, located only 5 miles from town, has a 24,000-square foot brick and steel hangar and a triangular pattern of concrete runways, each 5,500 feet long and 150 feet wide. Shortly after securing a right of entry, the city turned operations over to B. L. Rettig and his staff and they, in conjunction with Talbot Feild, Jr., local aviation attorney, have been busy reactivating the port and making the citizens air-minded.

In its present state of development, the tower is inoperative and the old army-type split-beam white flashing beacon has not been replaced with a white and green flashing beacon as required by the CAA. But the field is open 24 hours a day to the air traveler and is one of a few of its kind to keep runway, obstruction and wind tee lights and beacon burning all night for the safety and convenience of the late traveler. Visiting pilots are cautioned to land only on the runways as the grass areas have not been conditioned to assure safe landings.

Weather conditions in the Hope area are rarely severe, and the field is usually open when other airports in the area are closed. Repair service and parts

*(Continued on page 37)*

Modern brick and steel hangar has repair service and parts for light aircraft, provides eighty and ninety-one octane gasoline from flash-proof pumps in foreground. Control tower is presently inoperative but the field is open 24 hours a day. Runway, obstruction, wind-tee lights and beacon are kept burning all night for the late traveler.

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**. . . Says J. F. McCreery, manager of the McCreery Aviation Company and Central Valley Airport, 1½ miles north of Mercedes on the La Feria highway. Make it a point to drop in here when you're next in the Mercedes area. You'll find a fast-growing airport with two hard-surfaced runways and taxi strips and the most modern equipment for major engine repairs—all operating 24 hours a day.**

***"We've bought additional land adjacent to our present airport," says Mr. McCreery, "and plan to make Central Valley Airport one of the finest in Texas. Flyers can be sure they'll find here quick service, the best repair and hangar facilities, and everything else they'd expect of a first-rate airport—including, of course, Humble-Esso Aviation Gasoline and Lubrication — always first with flyers in Texas."***

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| U & S Flying Service | Big Spring |
| City of Big Spring | Big Spring |
| Breckenridge Flying Serv. | Breckenridge |
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| City of Brownwood | Brownwood |
| Coleman Flying School | Coleman |
| City of Corpus Christi | Corpus Christi |
| Glasscock Aviation Activities | Corpus Christi |
| Crane County Airport | Crane |
| Southwest Airmotive | Dallas |
| Clearview Airport | Dallas |
| Jacobs Aviation Co. | Dallas |
| Denver City Municipal | Denver City |
| Hall Flying Service | Eagle Pass |
| Martin Flying Service | El Campo |
| Eagle Field | Fairfield |
| Pecos County | Fort Stockton |
| Globe Aircraft Corp. | Fort Worth |
| Aero Enterprises | Fort Worth |
| Skyview Airport | Fort Worth |
| A. C. Flying Service | Galveston |
| Lynch-Parrish Aircraft Service Inc. | Galveston |
| Luscombe Airplane Corp. | Garland (Dallas) |
| Tri-Cities Airport | Goose Creek |
| Howard Humphrey | Goose Creek |
| Graham Aviation Service | Graham |
| Rutherford Flying Service | Greenville |
| Ferguson Aviation | Harlingen |
| Byrn's Sky Ranch | Hillsboro |
| Sky Travel, Inc. | Houston |
| Boynton Flying Service | Houston |
| Cliff Hyde Flying Service | Houston |
| Erwin-Newman Co. | Houston |
| Minor Stewart Airport | Houston |
| Sportsman's Field | Houston |
| Sam Houston Airport | Huntsville |
| Iraan Airport | Iraan |
| Jacksonville Flying Service | Jacksonville |
| Kermit Aero Service | Kermit |
| Kerrville Flying Service | Kerrville |
| Gulf Coast Flying Service | Kingsville |
| Matthewson & Olson Flying Service | Laredo |
| Frank Hogg Airport | Lamesa |
| Lufkin Flying Service | Lufkin |
| South Texas Aero Dusting Co. | McAllen |
| Ralph Stephens | Marlin |
| McCreery Aviation Company | Mercedes |
| Mexia Flying Service Inc. | Mexia |
| Midland Commercial Airport | Midland |
| Wisener Bros. | Mineola |
| Hopson-Putz Air Service | Mission |
| Valair Inc. | Mission |
| Monahans Municipal Airport | Monahans |
| L. T. Crawford Flying Service | Nacogdoches |
| Bowles & Tilbert | New Braunfels |
| Mayhew Aerial Service | Olney |
| Brownair Inc. | Orange |
| R. L. Tanner | Port Lavaca |
| Gorman Fox | Raymondville |
| Lane Airpark | Rosenberg |
| Saginaw Airport | Saginaw |
| Williams Aircraft | San Antonio |
| Air Terminal Service | San Antonio |
| Monroe-Witt Flying Serv. | San Antonio |
| Davis Airport | San Antonio |
| Schulenberg Airport | Schulenberg |
| Silver Dollar Flying Service | Seguin |
| Seminole Flying Service | Seminole |
| Frank W. Churchill Flying Service | Smithville |
| Jones & Ogden | Stowell-Winnie |
| W. J. Worsham | Taft |
| Gage Field | Teague |
| Reed's Air Service | Temple |
| Mathew Wallace | Terrell |
| Gulf Coast Airport | Texas City-LaMarque |
| City of Tyler | Tyler |
| Carter Flying Service | Velasco-Freeport |
| Jack V. Newland | Waco |
| David Setter | Weslaco |
| Wharton Municipal Airport | Wharton |
| Stoddard Aero Service | Wink |
| Winters Flying Service | Winters |

## TAILOR-MADE AIRFIELD

*(Continued from page 34)*

for light aircraft are available, eighty and ninety-one octane gasoline are stocked and 100 octane may be had when prior notice is given. Other services include clean rest rooms for both men and women, soft drinks and candy, direct telephone service, a CAA maintenance inspector, private and commercial examiners, quick transportation to town over a paved highway, an all-night attendant and fire truck protection.

Although the field has been in operation for only a short time, 36 private planes are now based there—proof enough that the town knows how to use its tailor-made airport. ★ ★ ☆

## Tennessee Clamps Down on Reckless Flying

By GENE SLACK TEAGUE

TENNESSEE'S new aviation law was put to test April 1 less than one month after its enactment, when pilot Harold Beerman was fined $50, by Davidson County General Sessions Court, for reckless flying. Beerman buzzed his father's farm near Nashville, misjudged his height and crashed into some trees resulting in a total loss of the PT-23 he was flying and slight injuries to himself.

The new aviation law empowers state law enforcement officials to arrest, try, fine and imprison pilots for reckless or drunken flying.

The Tennessee Bureau of Aeronautics on April 13 opened four ground-schools, located in Knoxville, Memphis, Chattanooga and Nashville, where all highway patrolmen will receive instruction in the particular phases of aviation to which the law applies. About 75 per cent of the patrolmen will be given five hours of flight instruction covering the aspects of law concerned.

Tennessee's city mayors will devote an hour on each program to aviation when they meet at various towns around the state from May 12 to May 19.

In a move to do away with some of their ground school headaches in the GI flight training programs, Tennessee Flight Operators met in Nashville recently and inaugurated a self-teaching home study course, guided by a minimum number of classroom hours. Such a program was found to be necessary because of a three-fold difficulty: a broad range in the educational level of students; the rate of 70c per student hour, in many cases, was insufficient for operators to secure competent instructors and necessary teaching facilities, and many students were enrolled in the commercial ground school though all they actually desired was a private license. Tennesse now has 43 approved GI schools, training 1,200 students. ★ ★ ★

# Leaders to Speak at 5th Annual Texas Airport Management Conference, June 4-6

The Fifth Annual Airport Management Conference, scheduled to convene June 4-6 at A. & M. College, College Station, Texas, is attracting many outstanding national authorities on airport and airport management problems, according to Howard W. Barlow, A. & M. Dean of Engineering and co-chairman of the conference.

Speech acceptances have already been received from Robert S. Fogg, water flying expert; Sam Dunlap, Slick Airways executive; Matt J. Ryan, widely-recognized small airport manager; Ed C. Nilson, director of aviation for the City of Fort Worth; Douglas O. Langstaff, New Orleans aviation director; S. E. Travis, Jr., superintendent, Airports Branch, CAA Fourth Region; and Woodruff De Silva, president of the American Association of Airport Executives.

A special effort is being made to attract a large number of airport service operators and airport managers and city officials from small and medium size communities. Airport service operators are being urged to bring one or more city officials with them in the belief that the conference can contribute many long-range benefits for community airport development.

The program covers three full days on the college campus. Meals and housing will be provided by the college at cost. Advance registrations should be mailed to Dean Barlow at College Station or to SOUTHERN FLIGHT, Dallas, co-sponsors of the conference.

## Segmented Circle Urged for Marking Airports

A new and inexpensive method of marking small airports has been developed by Clyde Carlstrand, CAA senior airport engineer. Called the "segmented circle" system, the plan calls for use of panels of metal or any weather proof composition to form a segmented circle 100 feet in diameter and 4 feet wide. The windsock, ordinarily hard to find from the air, would be spotted easily in the center of the circle, together with an L-shaped figure showing the direction of the traffic pattern of the field. Panels can be used to tell whether planes must use only the runways or whether the whole field is safe for landing. They will also tell when the field is closed to all traffic and when it is available only in emergency.

Markers of this type can be constructed for a few hundred dollars, according to Carlstrand, as compared to present cost of $2,000 for a concrete marker. Preliminary field tests in Washington have shown that the markers are easily visible before entering the traffic pattern and T. P. Wright, CAA Administrator, said he will consider regulations accepting this type of marker if the reactions are favorable. A limited number of booklets describing the marker plan are available from the Office of Aviation, CAA, Washington, D. C.

## Detroit Seeks Director

A full-time director will be employed in the near future by the Detroit Metropolitan Aviation Authority, according to an announcement by Col. Floyd E. Evans, director of the department of Aeronautics and a member of the Aviation Authority. Applications should be addressed to Eugene L. Antwerp, the authority chairman.

## Landings and Take-Offs at 20 Leading Airports, 1946

| | Local Civil | Itinerant Civil | Air Carrier | Military | Total |
|---|---|---|---|---|---|
| 1. Cleveland | 355,384 | 31,509 | 54,371 | 34,591 | 475,855 |
| 2. Atlanta | 241,698 | 40,262 | 45,302 | 23,402 | 350,664 |
| 3. Phoenix | 262,104 | 21,491 | 33,243 | 5,048 | 321,886 |
| 4. St. Louis | 134,408 | 14,738 | 46,878 | 50,636 | 246,660 |
| 5. El Paso | 193,102 | 11,500 | 30,446 | 3,347 | 238,385 |
| 6. Miami | 79,555 | 3,603 | 84,013 | 31,194 | 198,285 |
| 7. La Guardia Field | 20,903 | 21,098 | 147,297 | 7,084 | 196,382 |
| 8. Denver | 146,510 | 11,105 | 35,317 | 576 | 193,508 |
| 9. Chicago Mun. | 22,568 | 32,205 | 124,254 | 11,153 | 190,180 |
| 10. Kansas City | 107,413 | 17,650 | 54,484 | 1,399 | 180,946 |
| 11. Washington | 24,551 | 18,078 | 105,167 | 32 894 | 180,690 |
| 12. Ft. Worth | 102,387 | 18,433 | 39,008 | 7,389 | 167,217 |
| 13. Dallas | 11,453 | 34,662 | 61,912 | 34,195 | 142,222 |
| 14. Baltimore | 93,666 | 13,260 | 31,448 | 3,155 | 141,528 |
| 15. San Francisco | 38,463 | 16,042 | 53,635 | 11,276 | 119,416 |
| 16. Detroit* | 78,936 | 9,434 | 25,705 | 113 | 114,188 |
| 17. Memphis | 318 | 9,266 | 36,911 | 64,673 | 111,168 |
| 18. Burbank | 13,119 | 15,099 | 76,444 | 5,491 | 110,161 |
| 19. Pittsburgh | 30,985 | 14,060 | 63,359 | 1,757 | 110,161 |
| 20. Newark | 3,464 | 18,590 | 45,744 | 36,863 | 105,508 |

*Detroit ranking based on figures for last six months of year.

## MERCY BY AIR

*(Continued from page 19)*

with embalmers, embalming fluid, medical supplies and doctors. It held a DC-3 at Houston for six hours for evacuation use if needed.

Eastern Air Lines, Pan-American World Airways, Chicago and Southern and American Airlines flew doctors and nurses as well as Red Cross and Salvation Army officials, newsmen and photographers into the area from all parts of the country. TWA sent doctors, nurses and medical supplies from Kansas City in a special flight. In Washington the Civil Aeronautics Board issued blanket authorization for the tightly regulated air carriers to interrupt schedules to lend assistance in the stricken area.

A coast guard plane from Chicago's Great Lakes Naval Training Station arived in mid-afternoon with medical supplies. Civilian craft came from as far away as the West Coast. Many newspapers and picture services flew men into the area in their private planes.

Seven AAF C-47's based at Bergstrom Field near Austin flew 6,550 air miles carrying 141 passengers and 15,835 pounds of blood plasma and other medical supplies and 2,000 blankets to Texas City. Lieut. Col. Stanley Tobiason of San Carlos, Calif., in command of emergency operations at Bergstrom, said the passengers included 51 military cooks, 30 state patrolmen, one officer and 26 enlisted men of the Fort Sill, Oklahoma, Corps of Military Police, two officers and 25 enlisted men specialists in emergency rescue work and one complete C-46 load of nitrogen and oxygen.

One Bergstrom ship was sent to Scott Field, Ill., for additional plasma. Another was sent to Devil's Lake in North Dakota to pick up military cooks for field kitchens which already had been flown to Texas City.

The Naval Air Station at Dallas made repeated trips to Texas City with blood, gas masks, x-ray equipment, beds and blankets. Two medical officers, two officer nurses, 12 hospital corpsmen and eight fire fighters were flown immediately from Dallas.

Lieut. Col. Irvine H. Shearer, Army commander at Hensley Field, sent six AT-11 ships to Galveston loaded with doctors and flew 2,000 pounds of blood plasma from McKinney Hospital.

Kelly Field sent four C-47 air evacuation planes with 30 doctors and 50 nurses. Another flight of four C-47's brought medicine from St. Louis.

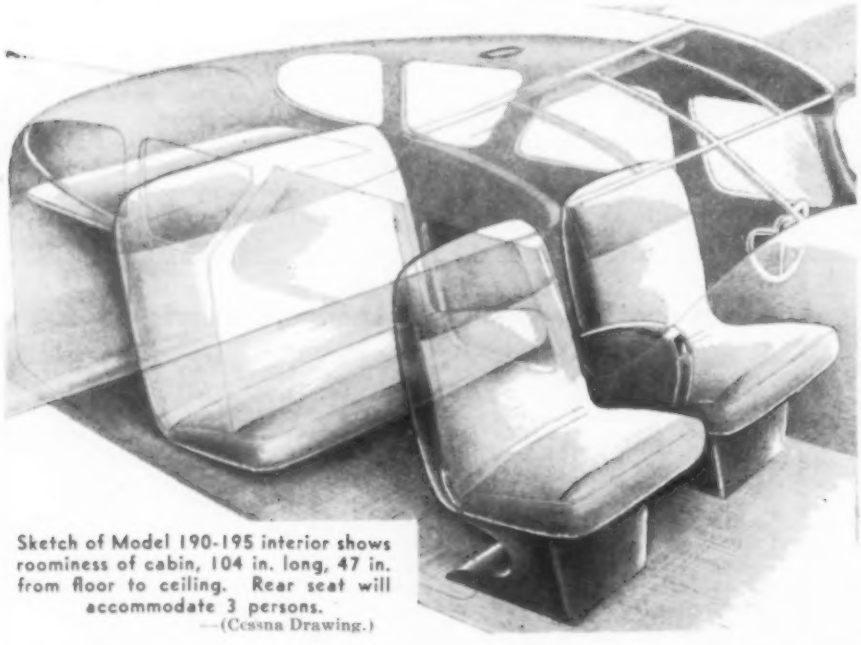
Maj. Gen. Robert M. Webster, commanding general of the Air Transport Command, placed his entire fleet of air evacuation planes and medical personnel at the disposal of Texas City authorities. Douglas Skymasters and Sky Trains assembled at Kelly Field from Army fields at Macon, Ga., Denver and Chicopee Falls, Mass., were alerted.

Thirteen C-47's of the indoctrination division of the air training command landed loads of gas masks and medical supplies on the bumpy Texas City runways a half hour after word was flashed that poison fumes from chemical and nitrate fires were menacing rescue workers.

The heavy work of moving in four WAA warehouses full of bedding, hospital supplies, flashlights, asbestos suits and radio equipment plus more supplies from Akron, Hattiesburg, New Orleans and San Antonio fell on 18 ships from the Naval Air Station at New Orleans.

Among private plane owners volunteering their services was W. O. Banksston, Dallas auto dealer, who was en route to Houston in his twin-engine Beechcraft when his pilot heard a broadcast of the disaster news. Jim Gray, Beechcraft distributor, donated a transport to fly nurses to the scene from Dallas. A Lockheed Lodestar and two Noorduyn ambulance planes were rushed to the scene by Col. D. Harold Byrd, Texas CAP commander, and CAP planes from Houston and Fort Worth rendered aid.

When Texas City, finding time for tears at last, gathered four days after the explosions to pay tribute to its dead in mass memorial rites, floral offerings were flown in, as was a plane load of New Testaments. ★ ★ ★



Sketch of Model 190-195 interior shows roominess of cabin, 104 in. long, 47 in. from floor to ceiling. Rear seat will accommodate 3 persons.
—(Cessna Drawing.)

## BIG CESSNAS

*(Continued from page 13)*

ground level. It was said that even with excessive loads the gear will return to normal and usually show no damage.

Although there is a resemblance to the prewar Airmaster in the new design, Cessna emphasizes it is completely new and different. "The 190-195 design is to the 4-place field what the Cadillac is to the automobile market," a spokesman declared. "It was designed to meet the more exacting demands of executive owners for power, performance, comfort, utility and price. There is a considerable market for such a design. But the new 4-place Cessnas are not a 'volume design' in the mass-production sense."

First deliveries are scheduled for late June. ★ ★ ★

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# The RECORD behind the RECORD

The first of United Air Lines' fleet of new Douglas DC-6's recently streaked across the country at an average speed of six miles a minute to set a new coast-to-coast record for commercial planes – 6 hours, 47 minutes, 13 seconds.

Behind this record stands the record of Pratt & Whitney engines–the most widely used, most dependable aircraft engines in the world.

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## Radio Telephone Communication helps eliminate delays in shipping freight

THE ENGINEER IN HIS CAB has a dual check—vocal and visual—on his instructions. Radio equipment includes a telephone handset, loudspeaker, low-powered transmitter, receiver and power supply in both cab and caboose.

THE FREIGHT CONDUCTOR IN THE CABOOSE calls the engineer in the cab. Transmission in all weather over desert and mountains and under bridges and power lines is highly satisfactory.

During the war, an ultra-high frequency two-way radio system enabled a pilot to communicate with his base or aircraft carrier.

This same type radio system is being installed on Santa Fe freight trains to provide a means of direct voice communication between engineer in cab and conductor in caboose, and between yardmaster and switching crews.

### Better Service

It means more expeditious handling of trains. Conductors can give "emergency stop orders" without setting of the emergency brakes and the risk of a break-in-two of the train and resultant delay.

For instance, a stop to check a suspected "hot box" or other defect needing attention can be handled in three to five minutes instead of twenty to thirty minutes.

### Another Reason for "Santa Fe—all the way"

This is only one of the many improvements Santa Fe is installing to expedite yard service and freight handling. It's another reason for "Santa Fe—all the way" that is helping to provide better "on-time" handling of your freight shipments.

Santa Fe

**SANTA FE SYSTEM LINES**

**Serving the West and Southwest**

## FAIRCHILD

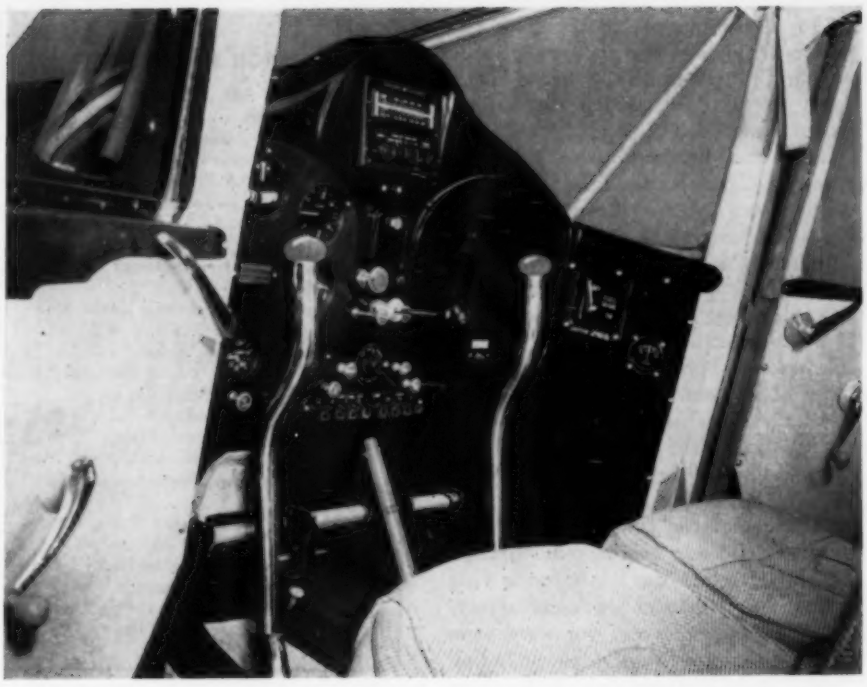
*(Continued from page 15)*

The private flier who lands at Laredo's former Army airfield is in for surprises. The city has taken over all buildings and hangars within a stone's throw of the three-quarter mile concrete ramp. Wind-damaged roofs have been repaired, buildings have been painted and grounds are clean and freshly-sodded. Two buildings of the Army's "theatre of operation" type have been remodeled at city expense. The smaller has complete facilities for health, immigration and customs officials. A portico leads from this building to the recently-refinished terminal.

Laredo's terminal is an outstanding example of what a city can do with surplus facilities. Formerly a student operations building, this frame structure really got a face lifting. A long porch was added, plus plenty of paint. The interior was sealed and decorated, a restaurant added and the large lounge was made comfortable with attractive ranch-style furniture. Rest rooms are spacious and clean. The ladies' lounge matches any we've ever sneaked into. A third and smaller building, also connected by a portico, will shortly house weather and CAA facilities.

All of these facilities are available to the private flier. In fact, you won't find a town anywhere that can excel Laredo's sincere desire to do right by the visitor. As Col. Pearcy put it, "Laredo desires to place this wonderful installation at the disposal of the private flier, on whom we believe the future of aviation depends. It's our intention to so conduct the operations of this airport that the private flier will find it the most economical and convenient point on the border to visit and enter Mexico."

Members of the aviation committee, all local businessmen, backed up Pearcy's words with equally sincere language. And Mayor Hugh S. Cluck, whose sense of humor and genial homespun air were a pleasant surprise, put it this way: "We're proud of that airport and we're going to do everything to make you fellows feel at home." Laredo, the Mayor admitted, had been slow to realize what the magnificent airfield could mean. "But we're making up for lost time now," he grinned, with a knowing wink at the Colonel. Much of the credit for Laredo's quick awakening, we learned, goes to this air-minded Mayor, to former Chamber of Commerce head Dick Furman (now at Victoria, Texas), and to the aviation committee. Col. Pearcy, unlike most airport directors, took his job before the city had acquired the field and played an important part in acquiring the airport and in planning the facilities. That, as Dr. John H. Frederick explains elsewhere in this issue, is the way it should be.



**Planned for comfort, P-24 has wide cockpit with ample leg room. Pilot's seat is adjustable and rudder pedals on right side may be disconnected for added comfort. Window glasses may be rolled up or down. Note flap handle at lower center and radio centered at top of instrument panel. Flight and engine instruments are grouped at left.**

### Border Tips

If you're planning a flying trip to Mexico, the City of Laredo would like to remind you that as of May 1 it officially became an international port of entry. During our stay, we made a careful study of requirements for entering and leaving Mexico. For instance, we personally investigated reports about gin fizzes served at the Cadillac Bar across the border. We also sampled bock beer at the Shamrock in Nuevo Laredo for our readers. Both products are exactly as advertised.

Don't plan on reaching there on Sunday. Over-time charges for both U. S. and Mexican officials are practically prohibitive unless you have more money than time. Plan on landing at Laredo a day before you cross the border, although you can make it nicely if you arrive early Saturday morning. There's no need for paying any brokerage fees. We'd suggest you ask Col. Pearcy to get you started, or that you contact either Edgerton Flying Service or International Aircraft Services at the airport. Ray Edgerton, for instance, will furnish you with necessary forms for your plane and will drive you into town free of charge.

To enter Mexico, you must be checked by U. S. immigration, health and customs officials. To satisfy Mexican officials, you'll need a tourist card (cost $2.10) and a permiso de vuelo (permit to fly) which costs $4.12. The tourist card can be obtained at your nearest Mexican Consulate or at Laredo. If you plan to get it at Laredo, bring along proof of citizenship in the form of a passport, birth certificate or affidavit. That's all there is to it; you're clear now to fly across the border to Nuevo Laredo and be checked by Mexican immigration and customs officials. Firearms, we might add, can be taken in only by permission of the local Mexican commandant.

Hopping across the border by plane, you'll land at Nuevo Laredo's municipal airport. This is a nice field with a trim PAA terminal building. Fuel is available here for lightplanes but no hangar space is provided. Clearing customs and immigration officials here, you're ready to fly south to Monterrey or southeast toward Mexico City.

Coming back, you'll again clear at Nuevo Laredo. And here's something to remember, U. S. Customs officials require previous notification of your arrival from Mexico. Nuevo Laredo is a good place from which to send a wire or telephone U. S. customs authorities. Again we advise against planning a Sunday return. That overtime runs into money.

Flying southward, you'll find Monterrey an easy hour and a half flying time from the Rio Grande. One of Mexico's leading cities, Monterrey lies at the foot of the Sierra Madres at

1,758 feet above sea level. The airport is a good one and the visiting flier will find plenty to do and see. Downtown points of interest are the Casino, located on Plaza Zaragosa, the State Capitol, and the Cuauhtemoc Brewery, home of Carta Blanca beer. Near-by scenic spots include Horse-Tail Falls, Huasteca Canyon, Garcia Caves and Chipinque Mesa.

Saltillo, capital of Coahuila, is 53 miles due west of Monterrey, lies 6,000 feet above sea level and has a climate to match. Flying south from these two resort centers, the aerial visitor can take the "low road" to Mexico City, skirting the mountain ranges to Vera Cruz and then hopping across to Mexico City.

And so, as the travelogues say, we climbed into our bright red Fairchild 24 and watched the Rio Grande fade behind us. Instead of clear dawn-tinged skies, however, we were soon skipping along under low-hanging Texas scud. Averaging 118 mph. ground speed to San Antonio, we picked up a slight tail wind and made Austin well head of a blustering cold front.

Here we waited patiently for heavy rains to cease, decided to stay overnight, and were off early the next morning. If you stop in Austin, you'll find the best in airport service but few hotel rooms. For a really good steak, try Hoffbrau's or Sammy's on West Sixth street. Either place is within walking distance of the Driskill Hotel.

Leaving Austin with early morning skies crisp and clear, we climbed to 6,000 feet. The Fairchild, using 2,250 rpm., indicated 114 mph. Outside air temperature, according to the weather station readings, was 19 degrees centigrade. That made true air speed 126 mph. Wind up here was 35 mph. from 275 degrees and our ground speed averaged 122 mph. Ground speed for the flight down averaged 106 mph.; ground speed for the return trip averaged 122.8 mph.

### Critically Speaking

While the Fairchild doesn't go places as fast as some of the newer designs in its price field, this long-nosed 175 hp. plane is hard to match for stability, sturdiness and roomy comfort. Here are a few features which impressed us: Rudder pedals on the right side may be disengaged, providing more leg room. The right seat pivots forward, making it easier to get into the back seat. The pilot's seat may be moved forward or backward, providing plenty of leg room. With the pilot's seat in the full back position, the rear-seat passenger still has ample leg room.

There is also plenty of head room, visibility in flight is excellent except in turns and the Fairchild can be handled on the ground in winds up to 30 mph. without difficulty. A real work-horse, the F-24 has ample baggage space for a week-end supply of clothing for four people. A sixty-gallon gas capacity and 12-gph. consumption gives it a 4½-hour range and 30-minute reserve.

Flying the Fairchild cross-country, you soon develop a lot of confidence in the ability of this husky plane to take care of you. Bringing it in for a landing, you'll like the solid stability and the ease with which it can be landed. One thing the F-24 has is plenty of landing gear. Once on the ground, the steerable tail wheel demands that you get busy on the rudders. Other than that, landings are simple.

You'll find the cockpit nicely-planned with the instruments you need for pleasant cross-country flying. Cockpit procedure is not involved and the pilot who can fly a Luscombe, Stinson or Cessna 140 should have no difficulty checking out and safely flying the F-24.

Chances are good, too, that you will hear people say $9,100 is a lot of money for a fabric-covered airplane. While the price for the complete 175-hp. plane is $500 below the 1941 price, that much money will leave a sizeable dent in most bankrolls.

We spotted a Fairchild in a rancher's backyard on the Laredo trip and we parked alongside a spanking new F-24 at Austin Municipal. As a competitive dealer put it, the Fairchild "is a darned good airplane." And as for flying an F-24 down to the border, we're ready to go right out and do the trip again. After all, we must have missed *something!* ★ ★ ★

### Airmen's Calendar

May 9-18—St. Louis Air Fair of 1947, St. Louis.

May 12-15—American Association of Airport Executives Convention, Chicago.

May 21—CAA Private Flying Forum for Mississippi, Jackson.

May 25-June 2—Michigan Aviation Week, Detroit.

May 29-June 1—Mississippi Goodwill Aviation Tour.

June 4-5-6—5th Annual Texas Aviation Conference at Texas A. & M. College, College Station, Texas.

June 7-8—13th Annual National Air Carnival, Birmingham, Ala.

June 1 — Second Annual Shawnee Aviation Day, Shawnee, Okla.

June 15-19—American Society of Mechanical Engineers, Semi-Annual Meeting, Chicago.

June 18—CAA Private Flying Forum for North Carolina, Charlotte.

July 16—CAA Private Flying Forum for South Carolina, Columbia.

August 7-9—National Flying Farmers Association convention, Stillwater, Okla.

## PYLON POINTERS

*(Continued from page 22)*

much bank to keep flying on the same curve, so you begin to slip, losing more altitude. If you don't check your air speed and tachometer now, and boost them by lowering the nose and opening the throttle, you may repeat the above process indefinitely until you stall. This is typical of several sequences of events which may lead to trouble if you don't keep your air speed fairly constant.

Your instructor may forbid you to change the throttle setting during this type of maneuver. The CAA manual will back him up. Having flown under conditions in which it was necessary to change the throttle from wide open to idling several times to maintain a constant altitude in figure 8's, I am of the opinion that the throttle is a legitimate control which should be coordinated with all the rest.

To visualize the so-called elementary figure 8, simply flop the circle over to form another circle tangent to the first one, with the quadrants reversed. In practice, the two circles cannot be flown perfectly tangent to each other but the transition should be made so smoothly that the wings are level and appear to be lined up with the two pylons at the same instant.

To illustrate a rectangular course—or take-off and landing pattern—separate the quadrants and draw straight lines between them. Quadrant number 1 represents the first turn after taking off. The diagram makes it clear that the maximum desired bank should be established and *from then on the bank is continuously reduced.* That means use rudder as well as aileron. Since this is often a climbing turn, you may have to use more rudder than usual. Quadrant 4 represents the last gliding turn of the approach. Again, the steepest bank occurs at the start of the turn and becomes less as the turn progresses. Thus you bank less as you get closer to the ground, which increases your margin of safety. If you have to increase your bank on either of these turns, you have not planned your path properly or have not controlled your air speed.

So the magic circle shows you the inside dope on 8's and how to make your turns around the field so that you and other pilots will know where you are going. There is one more thing to add.

*Don't stare at the pylon* or at the spot on which you are going to land. A lot of other things demand a share of your attention. If they don't get it you have missed the main value of practicing S-turns, circles, rectangular patterns and 8's. ★ ★ ★

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## HARRY A. HAMMILL

**SHERMAN ENGINE & MACHINE COMPANY**
**Clinton, Oklahoma**

**MORE FACILITIES LIKE THESE** would do much to make a good year for aircraft sales—that's the opinion of distributors and dealers who led in sales during 1946. La Cresta Airfield, at Bakersfield, California, has well-planned servicing ramp (left) for prompt and courteous service and spacious terrace (center). More individual hangars like those at Roberts Field, Birmingham, Ala., (right) were termed a major need of the aviation industry.

# DEALER NEWS

**Some leaders in 1946 aircraft sales look over the sales picture — and make a few recommendations.**

REDUCED prices, more airport and hangar facilities, improved designs and a better deal for personal plane owners in service and maintenance are among the things most needed to make 1947 a good year for aircraft sales, according to a survey of distributors and fixed-base operators across the nation. Conducted by the Aeronautical Training Society of Washington, D. C., the survey asked leaders in aircraft selling what they considered most vital for good sales during the coming year. The following replies are typical:

**Although fewer planes** will be sold during 1947, dollar value of sales will be about the same due to the greater relative demand for more expensive four-place airplanes. That is the opinion of Harry S. White, whose Palo Alto Airport Co. last year distributed 126 airplanes. Outlining his views on what the industry needs for 1947, White said: "It should be necessary for aircraft manufacturers to warrant all accessories and parts to the customer as well as the airframe. If the customer has no choice of what equipment is furnished as standard, these parts should be warranted by the aircraft manufacturer and warranty adjustments should be referred to the manufacturer of the airframe and not the manufacturer of the part." Discussing marketing policies, White said aircraft manufacturers should band together and not announce new models until such models are in actual production and ready for area dealers.

**Reduction in prices** of personal airplanes and improvement in service for the private flier are the two most needed things to make 1947 a good year for aircraft sales, according to Beverly E. Howard, president of Hawthorne Flying Service. Howard revealed that his company plans extensive improvements at three of its six bases during the coming year. At Jacksonville, Fla., a building program to include a maintenance hangar, individual hangars, and administration building will be completed this year. At Charleston, S. C., Hawthorne will resume complete fixed-base operation and at Columbia, S. C., construction of additional individual hangars will be completed.

**Fixed-base operators** absorbed most of the light airplane production for 1946 for instruction purposes but 1947 should be a good year for sales to the private pilot. That's the opinion of James P. Wilmot, president of Fage Airways, a leading New York state aircraft distributor. Wilmot is Aeronca and Beechcraft distributor and last year sold 150 airplanes from his base at Rochester Municipal Airport. He expects to sell about the same number this year. "It would help immensely if prices could be brought down several hundred dollars, thus bringing them within the reach of thousands of prospective purchasers," Wilmot said in outlining market problems for the year.

**More airports** everywhere and a consciousness on the part of operators to build up satisfied customers over the long haul are what the aviation industry needs most during 1947, declares Ben T. Smith, president of Southeastern Air Services of Atlanta, Ga. For satisfied customers, Smith added, operators must do first class work courteously and at as low cost as possible. Southeastern, which will distribute Ercoupe and Stinson aircraft during 1947, distributed 304 light planes during the past year.

**Fewer planes will be sold in 1947** than in 1946 but long-range prospects for the lightplane business are good. That's the opinion of William J. Graham, head of Graham Aviation Company whose key base is at Allegheny County Airport, Pittsburgh, Pa. Although Graham's Allegheny base alone distributed 140 airplanes in 1946, he believes it unlikely that his or other dealers' output will rise during 1947. "We are building for a boom five years from now," Graham explained. Chief problems facing the industry in building volume for public sales are lower cost airplanes and maintenance, Graham believes.

**Rural areas are the best field for** the lightplane salesman during 1947, declares Col. Dan Hunter, president of Hunter Flying Service at Cedar Rapids, Iowa. Reports from Hunter's operation indicate the Colonel practices in his own business what he preaches for others. In 1946 his firm distributed 142 airplanes and gave flight instruction to 250 students. A representative of Aeronautical Training Society who visited Hunter Field recently termed it "the busiest civilian airport for its size I have ever seen." Hunter Flying Service is distributor for Aeronca, Beechcraft and Fairchild airplanes.

**Lower priced lightplanes** with higher cruising speeds are two things most needed to make 1947 a top year for aircraft sales, in the opinion of E. H. McFarland, who recently opened a complete fixed-base operation at McFarland Airport four miles southeast of Springfield, Mo. The service also maintains a downtown store at 315 E. McDaniel Street in Springfield. McFarland operated a school for artillery observation pilots at Pittsburgh, Kansas, during the war.

**More small airports** must be built, personal aircraft must be made more useful and less noisy, and aviation merchandising must be on a sounder basis if 1947 is to be a good year for the sale of personal aircraft. That's the opinion of William R. Kent, president of Southern Air Services, operation at Memphis, Tenn., which dis-

tributed 231 airplanes during 1946. "As always, we still need more airports, more value per dollar of airplane cost, more utility for aircraft, less noise, and a big enough spread for distributor and dealer to permit aggressive, sound merchandising," Kent explained.

**Ample hangar space** for personal aircraft is one of the major needs of the aviation industry, according to R. A. Van Devere, president of Akron Airways, Ohio, firm which distributed 91 airplanes from its principal base and 412 from all bases during 1946. Van Devere believes his firm will distribute somewhat fewer airplanes in 1947 than last year and lists the greatest needs of the industry as (a) more hangars (b) clean businesslike competition, and (c) less red tape.

**Airport construction** and improvement is the number one need to make mass flying of personal aircraft a reality, believes Oliver L. Parks, president of Parks Aircraft Sales and Service, Inc. His East St. Louis firm sold 721 airplanes during 1946 and expects to sell about the same number of planes this year. Outlining industry needs, Parks said anything that will stimulate safety and eliminate aircraft accidents will help tremendously.

**Distributors who sold more than 300 planes** each for Piper during 1946 included Aircraft Sales, Martin Aircraft Service, Inc., Barr Aviation Company, and Mid-City Aircraft. Ten others each sold more than 200 planes: A. W. Whitaker, E. W. Wiggins Airways, DePonti Aviation Company, Tufts-Edgcumbe, Inc., Safair Flying School, Southern Air Service, Muncie Aviation, Wallace Aircraft Sales, Ray Hylan School of Aeronautics, and Atlantic Aviation Service. These leaders in sales were announced at the recent 7th Piper Distributors Cubvention at Lock Haven, Pa., which drew 100 per cent attendance of Piper distributors and their representatives from 52 distributing territories.

**Aviation Services of Texas, Inc.,** veteran-operated flight school at San Antonio's Alamo airport, currently has fifty students enrolled under the GI Bill and expects an even larger roster when multi-engine and ATR ratings are made available this summer. Aviation Services, which operates its own ground school, is headed by two former AAF officers, Norman G. Bodet, Jr., president, and Daniel B. Depmore, vice president. Office secretary is Mrs. Ruth Phillips, a former WASP, and qualified flight instructor.

**Rankin Aviation Industries,** operated by the late J. G. (Tex) Rankin's partner, Robert S. Norswing, will distribute aircraft in four West Coast states and British Columbia during 1947. The company is distributor for Republic Seabee aircraft, operates an overhaul and maintenance base, maintains a GI flight training program and also operates a crop dusting service.


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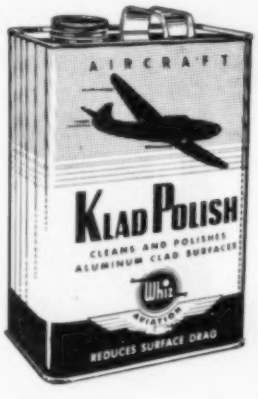


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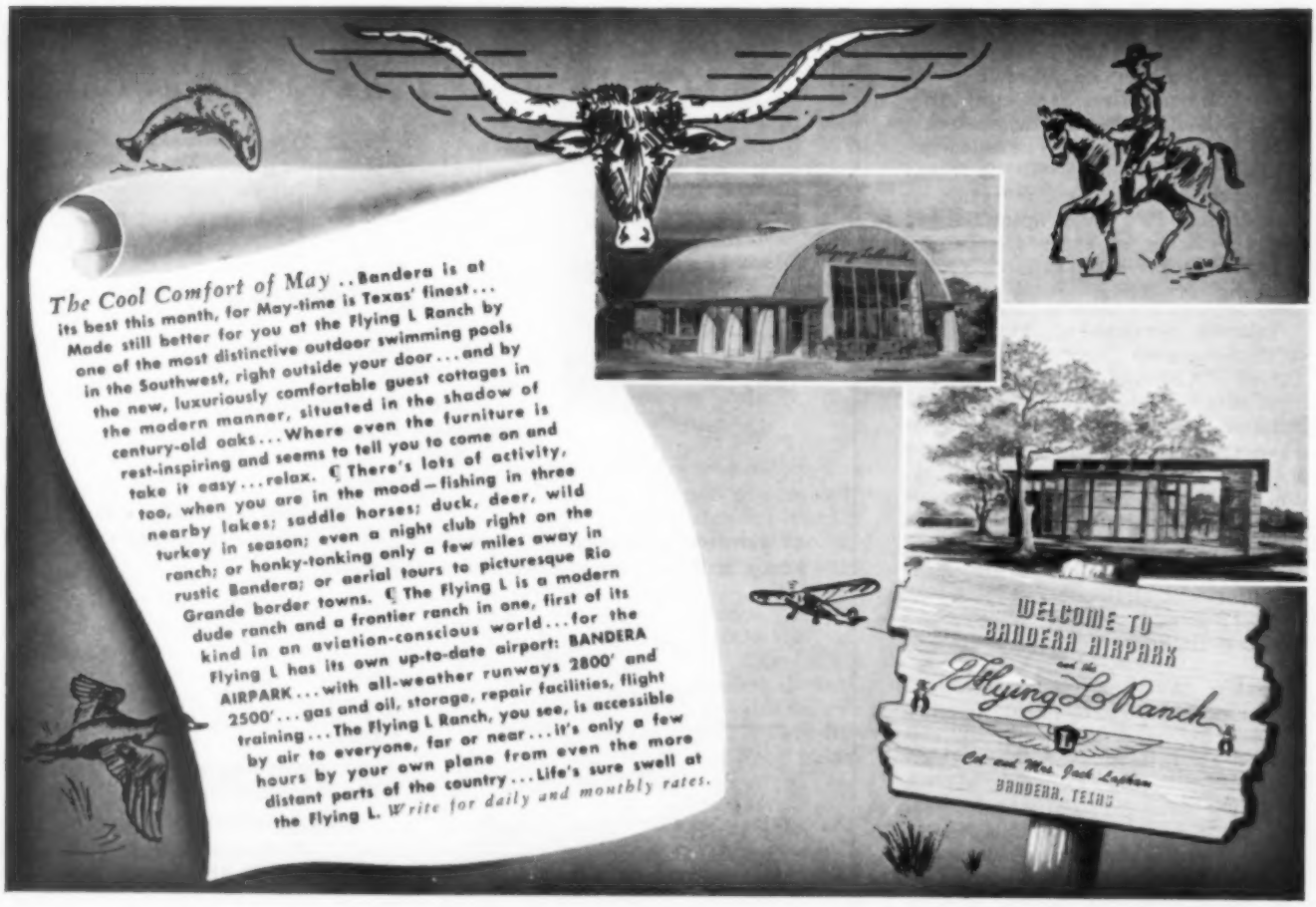
Northwest headquarters for the firm are at Pearson Air Park, Vancouver, Washington and offices are also maintained on Boeing Field, Seattle, and on Clover Field, Santa Monica, Calif.

**ADMA directors and committee chairmen** will hold their mid-year meeting June 30 and July 1 at the Grand Hotel on Mackinac Island, Michigan. The meeting, open to all members, will be highlighted by the selection of a site and program for the 1947 convention. Other topics for discussion will be factory-distributor relationships and new trends in the aircraft parts and accessories business.

**International marking of commercial aircraft** is being noted at more airports as exports of U. S. models increase. Beech Aircraft Corporation's export department recently listed the following nationality marks as obtained from the International Civil Aviation Conference: Afghanistan YA, Australia VH, Belgium OO, Bolivia CB or CP, Brazil PP or PT, British, BP, VQ, VR, Burma XY, Canada CF, Chile CC, China XT, Colombia HK, Costa Rica, TI, Cuba CU, Czechoslovakia, OK, Denmark OY, Dominican Republic HI, Ecuador HC, Egypt SU, El Salvador YS, Ethiopia ET, France F, Greece SX, Guatemala LG, Haiti HH, Honduras XH, Iceland TF, India VT, Iran EP, Iraq YI, Ireland EI, Lebanon LR, Liberia LI, Luxembourg LX, Mexico XA or XB, Morocco CN, Netherlands PH, Neth. East Indies PK, Neth. West Indies PJ, Newfoundland VO, New Hebrides YJ, New Zealand ZK, Nicaragua AN, Norway LN, Panama RX, Paraguay ZP, Peru OB, Philippine Commonwealth PI, Poland SP, Portugal CS, Portuguese Colonies CR, Spain EC, Surinam PZ, Sweden SE, Switzerland HB, Thailand HS, Turkey TC, Un. of S. Africa ZS, United Kingdom G, United States N, Uruguay CX, Venezuela YV, Yugoslavia YU.

**NAVION DEALERS** are as close as a telephone to North American technical experts under a unique field service plan now in operation. H. A. Eathorne (left), field service representative shown talking to Service Manager John Casey, will fly the circuit of dealers in a Navion, traveling between 10,000 and 12,000 miles a month and covering the circuit every 45 days. In touch daily with the factory, Eathorne will fly his Navion to the aid of any dealer wishing assistance.

**Waco Aristocraft** distributors already signed up, according to Bob Hurst, regional sales manager, include: Parks Aircraft Sales & Service, East St. Louis, for Missouri, Illinois, Indiana, Iowa, Nebraska and Kansas; Brown Airport Sales & Service, Tulsa, for Oklahoma; Graham-Darrah Aircraft Sales Co., S. Charleston, W. Va., for West Virginia and part of Kentucky; Airways, Inc., Los Angeles, for Southern California, Arizona and part of Nevada; R. P. Bowman & Co., of Oakland, for Northern California and part of Nevada; Este Aviation, Inc., Camden, N. J., for half of New Jersey, Pennsylvania and New York excluding Manhattan; Godske Aviation Co., Racine, for Wisconsin and Upper Michigan; Pioneer Air Transport, Detroit, for the rest of Michigan; A. W. Whittaker of Portland, for Oregon, Washington and Idaho, and Wiggins Airways, Norwood, for Massachusetts, Rhode Island and part of New Hampshire. Prospective distributors in Texas, Louisiana and Mississippi are being interviewed.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**Four Latin American distributors** were announced in March for North American's four-passenger Navion. Handling sales in Mexico and Central America will be MACSA, located at the Central Airport in Mexico City. Distributor for Argentina, Uruguay, and Paraguay will be Tider, Sociedad de Responsabilidad, Ltda., an aviation firm operating from San Fernando Airfield near Buenos Aires. South African distributor will be Pretoria Light Aircraft Co., Pretoria, Transvaal, Union of South Africa. Pretoria is the oldest aircraft company in South Africa and has a network of 40 dealers.

**Aero-Trans, a ferry service operating from Mines Field, Calif.,** has ferried more than 250 Navions to customers through the nation and expects to deliver 2,000 North American personal planes this year. Aero-Trans was organized in the fall of 1945 by Walter E. Seeley, Jr., formerly chief of aircraft control at Wright Field during the war, and around 35 pilots are now on the firm's payroll.

**Piedmont Aviation, Inc.,** of Winston-Salem, N. C., did a larger volume of business during 1946 than in any year since its incorporation in 1940. Tom Davis, re-elected president and treasurer, expressed an optimistic outlook for 1947 in spite of what he termed a feeling of general pessimism throughout the industry. "Simply because the time has come when we are going to have to sell instead of sitting back and taking orders is certainly no reason for remorse," Davis said.

**WHAM!** Drop tests of the Cessna's unique spring steel landing gear for the Model 190 proved the engineers' careful calculations had been correct. Springs for the Model 190 not only passed official drop tests of 22 inches at gross weight but passed overload tests of 54-in. drops at arctic temperatures of 84 degrees below zero. During these tests, the gear spread until the belly of the ship touched the ground and even under such excessive loads, returned to normal and usually showed no set or damage whatsoever.

## WHAT'S NEW

**Warning of an approaching stall** is accurately relayed to the pilot by stall warning indicator recently announced by the Safe Flight Instrument Corporation. Known as the Safe Flight Indicator, the device consists of a wing unit and instrument panel installation. A small tab of metal or vane protrudes outward from the wing's leading edge and is connected to a relay inside the wing which opens or closes the electrical circuit to the warning mechanism. When this circuit is open the vane is held down by air flow and spring tension. When the airplane reaches a near-critical attitude, the air flow changes direction, raises the vane, closes the circuit, and operates a warning horn. The device also accurately warns the pilot of an approaching high speed stall.

**A warning device** developed by the Mine Safety Applicance Co. of Pittsburgh, Pa., is said to quickly detect fire or carbon monoxide in aircraft. Suitable for use in lightplanes, the device is light, compact, highly sensitive, and is said to provide a maximum of protection at minimum cost. The instrument is so constructed that, when a concentration of 0.005 per cent of carbon monoxide is detected at one of the sample intakes, a light on the instrument panel flashes, identifying the section where fire or carbon monoxide is present.


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Aeronca's newest offering for 1947 buyers is this modification of the familiar Chief. Designated as the Scout, it has side-by-side seating and dual wheel controls.

(Aeronca Photo.)

# Aeronca Scout

TERMED the lowest-priced two-place side-by-side trainer in its class, Aeronca's new 65-hp. Scout is said to be especially suited to small airport operations and instruction work. Priced at $2,475, the new Aeronca has many features of the costlier Chief, such as side-by-side seats, dual wheels instead of stick controls, adjustable seat, ash receivers and two glove compartments.

The new Scout Trainer is 80 per cent interchangeable in parts with the Champion and Chief, is a conventional high-wing design, and is fabricated of steel tubing fuselage, spruce wing spars and fabric covering.

Fuel capacity is 15 gallons and the 65-hp. Continental engine is said to burn 4.4 gallons of gasoline per hour at cruising speed. The customary group of flight instruments is centrally grouped on the instrument panel and engine controls are centered at the bottom of the panel. The compass is mounted on the top deck of the cowling just ahead of the instrument panel. Provision is made for installation of a mechanical starter as special equipment.

The interior is furnished in serviceable brown leatherette which is washable and water repellent. Cabin trim is in matching shades of tan and brown. Wide auto-type doors on each side are said to make the Scout especially adaptable as a seaplane and the plane will be available with corrosion-resistant treatment for salt water operation.

**Rotating beacons** designed to meet price and service requirements of smaller airports are now being manufactured by the Line Material Company, East Stroudsburg, Pa. Easily mounted on either poles or rooftops, the L-M rotating beacon has a double set of sealed beam lamps which assure dependability of operation. If one set burns out, the other is automatically switched on. When the operation goes on the spare lamps, a tell-tale circuit advises the control center. Under normal clear-weather conditions, operation at 85 per cent voltage provides 110,000 candlepower and lamp life of 4,000 hours. The beacon weighs approximately 75 pounds.

**Changing a lightplane tire** is said to be possible in less than one minute with a new type pneumatic wheel and detachable rim developed by the Aerol Co., of Los Angeles. The wheel has two sections. One section includes the bearing carrying part of the wheel and rim. The other section is a detachable rim which slides into position over the main part of the wheel and is held in place by a special steel spring retainer ring.

**Aircraft Tools, Inc., of Los Angeles** has announced a new spring tension clamp applied in one-tenth the time required for ordinary screw clamps. . . . Nickltex, an all-nickel scour cloth said to solve the toughest engine cleansing and scouring jobs was put on the market by Metal Textile Corporation of Orange, N. J. . . . The Coburn Manufacturing Co. of Kansas City announced a fast-action, hard-carbon solvent called Aviation LIX-SOL designed for removing high-temperature carbon deposits from aluminum alloy aircraft pistons. . . . Two new products—an escape ladder and dual purpose loading truck—were added to Air Associates' line of Davis Cargo Tydown Equipment. The hand truck weighs 6 pounds and can support a 1,000-pound load. The escape ladder is made of magnesium alloy and weighs 12 pounds. . . . A 32-page illustrated booklet featuring the complete line of AristoCraft power drills was announced by AristoCraft Power Tools, Inc., 601 West Washington

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Blvd., Chicago 6, Ill. . . . The B. F. Goodrich Company of Akron, Ohio, published a 40-page "Rivnut Data Book" describing construction of each Rivnut type, lists sizes, dimensions, and grip ranges. . . . A 24-page catalog presented hydraulic shop equipment manufactured by Blackhawk Mfg. Co., of Milwaukee 1, Wis.

**Static dischargers and suppressors** which eased radio static for military pilots during wartime are now available for commercial pilots. The equipment, which has been manufactured by Dayton Aircraft Products, Inc., under government contract, shields all antenna terminals and splices and provides a means for quietly discharging electrical charges acquired in flight.

**Repackaging is the chief difference** between GE's new two-way Flying Radiophone, Type AS-1C, and the AS-1B, which was twelve and one-half inches long and housed transmitter and receiver in one case. The new unit has an overall length of nine and one-half inches and provides the private flier with two-way tower and radio range communication as well as broadcast reception. The receiver is in a separate case designed for easy mounting.

**Smallest storage battery** with a full 24 ampere hour capacity is said to be the new S 24 Rebat Aircraft battery, which weighs 2½ pounds and measures 7¾ x 5¼ x 7⅞ ins. overall. Specifically designed for light aircraft, the small battery is reported to possess all of the desirable features found in larger sizes. It is non-spill, rugged, and has excellent cold capacity.

**A Type 17 two-way VHF communication system** is the latest addition to Aircraft Radio Corporation's line. This new system includes a five-channel VHF transmitter and a tunable VHF receiver covering the entire range from 108 to 132 megacycles allocated by the FCC for aviation use. Operated from a small remote unit, Type 17 weighs less than 16 pounds when installed.

## PERSONALLY SPEAKING—

WILLIAM L. WALKER, former Cleveland manager of Parks Aircraft Sales and Service, is now vice president and general manager of Sky Travel, Inc., at Cleveland Municipal Airport. . . . SAMUEL STEWARD BRADLEY, chairman of the board of the Manufacturers Aircraft Association and aviation pioneer, died April 9 at his home, 45 Park Avenue, N. Y. . . . Appointment of PHIL McKNIGHT as public relations director of Beech Aircraft Corporation has been announced by Frank E. Hedrick, Beech vice president and co-ordinator. McKnight succeeds Homer Kelly, who resigned recently. . . . LEE H. SMITH has been named sales manager of Beech Aircraft Corporation. . . B. B. MORRISON has been promoted to supervisor of the aircraft and engine curriculum of Dallas Aviation School. . . . JAMES STALNAKER as sales engineer in charge of Ryan Aeronautical Company's Eastern office will serve as sales and technical consultant on exhaust manifolds and jet engine components. . . . THOMAS R. FOSTER LONG, formerly sales manager for Luke Harris Industries at Willow Run airport, has joined Southern Airways as general manager of the parts department. . . . Pacific Airmotive Corporation's Board of Directors was re-elected at a recent meeting of stockholders. Directors are EARL HERRING, E. O. LOCHER, CLINTON LA TOURRETTE, A. C. STEWART and HAROLD W. SANDERS. . . . RAY THACKER, long associated with the aviation industry in the Southwest and Pacific coast areas, has been appointed assistant manager of Clearview Airport at Dallas. . . . WILLARD WALPOLE, former Dallas branch manager, has been transferred by Air Associates to Los Angeles Municipal Airport as Los Angeles branch manager. With him went JIM RYAN, former Dallas salesman, to take charge of Los Angeles dealer sales. WELDON WILLIAMS is Dallas manager and DOGGIE CONINE took RYAN's place in Dallas dealer sales.


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## 5,843 Lightplanes Delivered in 1st Quarter; Stinson Still Climbing; Navions off Sharply

Reports from 13 manufacturers show 1,724 lightplanes were delivered during March, a decline of 226 from February and 655 fewer than were delivered in January. Deliveries of 4-place airplanes totaled 594 for March, 57 fewer than were delivered during January. Manufacturers' net billings for March totaled $5,085,000 as compared with $6,158,000 for February and $6,733,000 for January.

The figures, released by the Aircraft Industries Association's Personal Plane Council, show a total of 5,843 airplanes delivered during the first quarter, an average of 1,951 per month and a rate of 25,412 airplanes per year with an indicated billing totaling $71,904,000. The same manufacturers, plus one additional producer now in liquidation, reported 31,594 lightplanes delivered during 1946, with a total net billing of $88,172,000. The average monthly rate of deliveries during 1946 was 2,632.8 airplanes.

Significant highlights in 1947 deliveries include:

Stinsons led the 4-place field with 733 deliveries for the first quarter. Others are Navion 560, Seabee 362, Bellanca 102, Beech 76, Fairchild F-24's 580. Republic Seabee deliveries increased from 103 in January to 133 for March and Beech Bonanza deliveries increased from 1 in January to 63 in March. On the other hand, Navion deliveries which totaled 238 in January dipped to 221 in February and to 101 in March while Bellanca dropped from 51 in January to 24 in March.

Among the 2-place ranks, the standout has been Cessna's sustained high delivery rates. The Wichita factory delivered 3,959 Model 120's and 140's throughout 1946 to place third behind Piper and Aeronca. But while Piper's deliveries have declined steadily—3-place Super Cruisers have made up the bulk of Cub production for some time—from 665 in January to 493 in March and Aeronca shipments sagged from last year's record highs to only 146 in March, Cessna deliveries totaled 420 in January, 310 in February and 369 in March to place the company ahead of Aeronca and very close to Piper. The comparison is especially close in net billings for March, when Piper's $1,131,000 was off from $1,323,000 in February while Cessna climbed from $711,000 in February to $828,000 in March. Another Piper decline and Cessna increase will see the Kansas factory at or remarkably close to the top as the world's largest producer of lightplanes.

North American's declining deliveries are emphasized by its reduction in billings, which fell sharply from $1,334,000 in February to only $656,000 in March.

Deliveries of 4-place airplanes totaled 1,891 for the first quarter, an annual rate of 7,564.

AIA figures in the following recapitulation of 1947 deliveries furnish an interesting study of the changing market as compared with the 1946 record of deliveries:

| Mfr. | March | Mfr. | Feb. | Mfr. | Jan. | Mfr. | 1946 |
|---|---|---|---|---|---|---|---|
| 1. Piper | 493 | 1. Piper | 571 | 1. Piper | 665 | 1. Piper | 7,780 |
| 2. Cessna | 369 | 2. Cessna | 310 | 2. Cessna | 420 | 2. Aeronca | 7,555 |
| 3. Stinson | 255 | 3. Stinson | 247 | 3. NAA Navion | 238 | 3. Cessna | 3,959 |
| 4. Aeronca | 146 | 4. NAA Navion | 221 | 4. Stinson | 236 | 4. T-craft | 3,151 |
| 5. Republic | 133 | 5. Aeronca | 173 | 5. Aeronca | 161 | 5. Erco | 2,503 |
| 6. NAA Navion | 101 | 6. Republic | 126 | 6. Erco | 124 | 6. Luscombe | 2,490 |
| 7. Luscombe | 82 | 7. Erco | 118 | 7. Luscombe | 120 | 7. Stinson | 1,436 |
| 8. Beech | 63 | 8. Luscombe | 81 | 8. Republic | 103 | 8. Globe | 1,054 |
| 9. T-craft | 38 | 9. T-craft | 42 | 9. Bellanca | 51 | 9. Temco† | 563 |
| 10. Bellanca | 24 | 10. Bellanca | 27 | 10. T-craft | 31 | 10. Beech | 299 |
| 11. Temco* | 18 | 11. Temco* | 18 | 11. Temco* | 22 | 11. Bellanca | 288 |
| 12. Erco | — | 12. Beech | 12 | 12. Funk | 7 | 12. Republic | 196 |
| 13. Funk | 2 | 13. Funk | 4 | 13. Beech | 1 | 13. Funk | 174 |
| | | | | | | 14. NAA Navion | 146 |
| Totals | 1,724 | | 1,950 | | 2,179 | | 31,594 |

*Fairchild F-24's.
†F-24's and Globe 125's.

## Federal Funds Urged by CAA for Greater Utility in Personal Airplanes

Government aid in the development of greater utility in personal planes has been proposed by William A. M. Burden, Assistant Secretary of Commerce, and T. P. Wright, CAA Administrator.

Burden, speaking to the chief engineers of the companies now manufacturing personal aircraft, suggested formation of an industry-government committee to select a list of development projects considered necessary to improve the airplane to a point where it would be purchased and usefully employed by a wider segment of U. S. citizens. A committee composed of industry and government representatives would determine the relative importance of projects and propose a priority list.

Wright, in discussing the proposal for government aid, suggested the expenditure of $5,000,000 over a three-year period. This money would be used in financing contracts to the industry for various projects. Since some projects would fall naturally into the development activities of the Navy, Army or CAA, Wright proposed funds for such improvements, if voted, be put into the budgets of these agencies.

## Two New Feeder Routes Authorized in CAB's Southeastern Decision

Piedmont Aviation, Inc., of Winston-Salem, N. C., and Southern Airways, Birmingham, Ala., were authorized new feeder routes in the CAB's decision on the Southeastern States case. The Board's opinion, which showed a marked trend toward conservatism, contrasted sharply with the decision of examiners last spring to set up four feeders serving some 140 communities in 14 states. Piedmont and Southern will serve less than 50 different communities in Kentucky, Virginia, North Carolina, Mississippi, Alabama, Georgia, South Carolina, and Florida. In both cases, the Board decided to withhold new three-year certificates until the designated carriers can show adequacy of airport facilities.

In the same decision, the CAB authorized route extensions or additional intermediate stops for American, Eastern, TWA, Delta, and Capital airlines. All American Aviation's request for new pickup routes was turned down, as was Colonial Airlines' request for three routes between Washington, D. C., and Florida points. PCA's request to extend services to Jacksonville was also turned down.

## Piper Backs Air Taxi System for Its Dealers

A nationwide air taxi system to provide both long and short haul passenger service is being set up by Piper Aircraft Corporation and its regional distributors and dealers. Using three-passenger Super Cruisers, Piper expects the service to offer rates as low as 6 cents per passenger mile. The service is designed to be of particular advantage to airline passengers between off-airline airports and airline stops.


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# Temco Expanding with $5,000,000 Backlog; AAF Repair, New Seats, B-36 Parts Added

Over the hump after providing from last year's profits a $500,000 reserve for losses from Globe Aircraft Corporation's failure, Texas Engineering & Manufacturing Co., of Dallas announced last month it has already amassed a backlog of nearly $5,000,000 in new business and is doubling its personnel from 600 to 1,200.

New business includes sales of aircraft seats of its own design, transport conversions for domestic and foreign customers including the president of Chile, large-scale airplane overhaul for the Army Air Forces, more subassemblies for the Army's Fairchild C-82, parts for the B-36 and large-scale production of industrial items.

When Globe cancelled its contract for 1,500 Swifts, Temco had current obligations of about $1,880,000. To date, $1,180,000 of this has been liquidated, according to Robert McCulloch, president. The firm had equipped itself with a complete set of tooling for the Swifts and still holds 106 of 329 Swifts it produced before Globe closed down. After providing a $500,000 reserve for losses which may be suffered in its claim against Globe, Temco's 1946 deficit was only $9,702.02, McCulloch said. Net profits of $128,144.96 before taxes were reported on $1,469,480.94 sales during the first two months of 1947.

Newest contract is for complete overhaul of 97 military planes for the Army Air Forces. They are 68 B-25's, 18 C-47's, 3 OA-10's (PBY's), 6 PT-17's and 2 BT-13's which probably will be sold to South American countries by the AAF. Temco is setting up its own instrument and propeller repair shop.

Transport conversion under way include a very elaborate executive C-47 for the president of Chile. The airplane will have two compartments with divans, swivel chairs, greatly enlarged lavatory, a $350 home-type radio with multiple speaker outlets and other fineries.

The first sleeper versions anywhere of the familiar DC-4 are being outfitted in the conversion of two C-54's for Far Eastern Air Transport, Inc. Temco also has contracts for conversion of five 44-passenger C-54's for Trans World Airlines, and is converting C-47's for Avianca.

Manufacture of large assemblies for the C-82 and sheet metal and machine parts for the B-36 comprises a large part of the firm's business. Another large order is for several thousand automatic popcorn machines.

Aircraft seats of its own design, approved by CAA for DC-3 and DC-4 passenger craft, are being manufactured on a quantity basis for industry-wide sale. They have hydraulic reclining gear. Temco also has designed a line of metal luggage and several types of vending machines.

**HELICOPTER MASS DELIVERY** record was set by Bell Aircraft Corp., when thirteen 2-place military models were flown away. Their plexiglas cabin bubbles made an impressive scene in this lineup outside the Buffalo, N. Y., factory.


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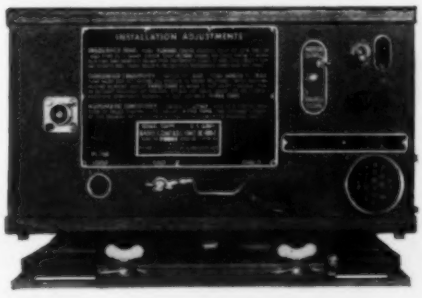

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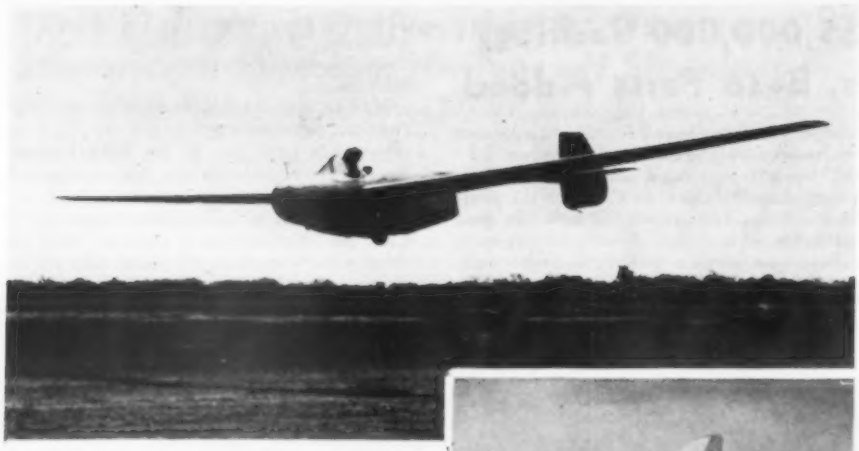

**NEWEST U. S. SAILPLANE** is Vernie Ross's Ranger II (above). Scheduled to compete in the National Soaring Meet at Wichita Falls, the metal-and-nylon Ranger, with semi-laminar-flow wings, was recently tested in a soaring meet at Denton, Texas. Small photo shows other craft at Denton.

## New Distance Marks, 75 Craft Expected in National Soaring Meet

All American and international distance records will certainly be broken and there are chances that new altitude records might be established in Texas July 4-20 during the 14th Annual National Soaring Meet at Wichita Falls.

That statement has been made by Paul Tuntland of Orlando, Fla., prominent Silver "C" sailplane pilot and holder of the 2-place altitude record, who said 75 sailplanes and 125 pilots are expected to enter the competition as compared with less than 50 sailplanes and 80 pilots entered in last year's annual meet at Elmira, N. Y., traditional home of the event. A Russian woman holds the world's distance record of 465.5 miles, but thermals in the Southwest are known to be capable of sustaining greater sailplane distances. Pool prizes to be offered by several cities will lure contestants.

Five new sailplane designs are expected to participate. These include Vernie Ross's metal-and-nylon Ranger II, especially designed for distance with high aspect ratio and semi-laminar-flow airfoil. Dick Johnson, holder of the 2-place distance record, will appear in a new, modified "Screaming Weiner" single-seater with a wing area of only 80 sq. ft.; smallest sailplane in the U. S. Capt. Shelley Charles, airline pilot who holds the single-place altitude record, is importing a new Swiss Moswey VI, whose minimum sinking speed is only 16 inches per second in contrast to the customary sailplane's 3-ft. sinking speed. There will be a new Schweizer 121, making its first appearance.

Leading contestants expected to enter include John Robinson and his Zanonia, Clarence See and his Polish-built Orlik, Shelly Charles and his Moswey VI, Paul McCreaey, Jr., and Screaming Weiner, Paul Tuntland in the Ross Ranger II, E. J. Reeves in Ross's Super Ranger, Ray Porter in a Pratt-Read and Capt. Francis B. Compton.

Capt. Kim Scribner, a Pan American Airways master pilot and leading U. S. sailplane aerobat, will headline a number of stunt events. He performs outside loops in the powerless craft. Incidentally, Bevo Howard of Orangeburg, S. C., champion powered-plane aerobat, is buying a sailplane and might compete.

Bob Blaine, widely-known West Coast soaring figure, has been appointed contest manager, with John Nowak as assistant manager.

## George Cushing, 7 Other Delta Officials Killed

George R. Cushing, Delta Air Lines vice president of operations and one of aviation's best known figures, was killed with seven other Delta employes in a low-altitude collision at Columbus, Ga., between a Delta C-47 and a converted PT-13. According to eye witness, the C-47 was coming in for a landing about 30 feet above the runway.

Other Delta employes included H. R. Bolander, director of properties; Lindley W. Camp, legal staff; Clayton S. Berry, station construction engineer; L. T. Campbell, superintendent of communications; J. V. Little, Atlanta district traffic manager; E. A. Rainouard, chief flight superintendent; and John L. Schneider, superintendent of stations.


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## Globe Adjudged Bankrupt; Trustees Ask Liquidation

Liquidation of Globe Aircraft Corporation and its properties at Fort Worth, Texas, has been asked by Trustees George J. Newman and Wirt M. Norris and was to be considered at a meeting of creditors on May 5. Globe was adjudged bankrupt in Federal court on April 22. Properties on which liquidation is sought include 240 Swift airplanes, 25 partially completed Swifts, large quantities of parts and assemblies, $400,000 worth of material, 150½ acres of land, machinery, jigs and fixtures, tools and equipment and accounts and notes receivable.

## Air-age Education Stressed at Meeting

Aviation should be incorporated into present-day high school and college curricula, not just as a distinct course but as a part of geography, physics, mathematics, history and other courses. This was stressed by leading educators last month at the University of Oklahoma's first air-age education conference. The University's aviation training program was commended as one of the nation's best.

## TPFA Elects LeSage

R. S. (Bob) LeSage of Dallas was elected president of the Texas Private Fliers Association at a recent meeting of officers and directors held at Bandera. LeSage was elected to fill the unexpired term of Jimmie Kolp of Electra, who resigned recently.

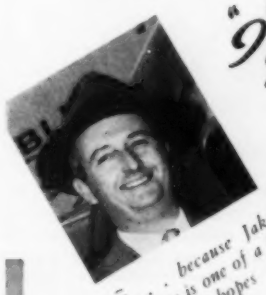
## Continued Criticism May Curtail GI Program, Florida Director Warns

Stirred by complaints from veterans regarding discrepancies and irregularities in several Florida flight and ground school programs, Paul Eddy, director of adult and veteran education, warned operators to either police themselves or expect more severe regulations, curtailment or complete elimination of the GI program.

"Although the complaints have been centered round a few operators," Eddy said, "the general reaction is that the veterans are not getting complete training, which reflects unfavorably on all operators." Major complaints have been that veterans do not complete the course or secure the appropriate CAA rating, Eddy said, and critics of the the flight program are calling it a "joy ride" rather than a training program. Also that ground school training is not being given or is so poorly given that veterans avoid attending it.

## Mississippi Tour

One hundred private planes are expected for the Second Annual Mississippi Goodwill Aviation Tour May 29-June 1, sponsored by the Jackson Chamber of Commerce. Free fuel will be furnished by Standard Oil Company. Entries should be sent to C. A. (Bud) Moore, chief tour director, box 945, Jackson, Miss.

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## Clinic Asks Study to Simplify Pilot Training

Revision of the private pilot curriculum and flight test through a CAA research program was proposed by a resolution adopted by the Chicago Regional Aviation Clinic. Possible elimination of spins, pylon eights, simulated forced landings and provision for more cross-country training were suggested.

Other resolutions opposed landing fees for private fliers, urged action in airmarking, improved weather service and proposed prompt Federal aid airport payments.

## AOPA Absorbs PFA

Transfer of the national Private Flyers Association's documents and membership records to the Aircraft Owners and Pilots Association was announced recently by AOPA officials. Merger with AOPA was determined by a majority vote of the several thousand members composing the Private Flyers Associations, and former PFA'ers who are qualified pilots or aircraft owners will automatically become eligible for AOPA services. AOPA maintains national headquarters at Washington, D. C., and services include confidential bulletins distributed periodically, cross-country routing information, legal advice, and many other specialized aids.

## 100-lb. Radar for Transports Sought by AAF

To improve flight safety in darkness, fog or storm and to increase the efficiency of all-weather airlines operations, the Army has given General Electric a contract to develop a small simplified radar weighing about 100 pounds and compact enough for the average commercial or military transport planes. Though eight times more powerful, it will weigh 50 pounds less than the wartime radar (APS-10) which is contrasted to the 500-pound radar used throughout most of the war.

## Long Road to Supersonic Flight Seen by Curtiss

Developments in the field of supersonic flight will require the same time and effort that has gone into previous aviation developments, Guy M. Vaughan, president of Curtiss-Wright Corp., warned in a report.

Present explorations in the fields of rocket propulsion, pilotless aircraft and guided missiles, he said, "does not mean that we believe the products now in production, particularly for commercial transport, are obsolete or likely to become so very quickly."

## Lightplane Exports Off

Ninety-three lightplanes valued at $395,937 were exported during March by ten companies reporting to Aircraft Industries Association. In February 156 planes valued at $479,763. Companies reporting are Aeronca, Beech, Bellanca, Cessna, Fairchild, Funk, North American, Piper, Republic and Stinson.

## Les Bowman Builds 85-hp. Clipped-Wing Cub for Air Shows

Called the "Cub Cut-Up" and carrying Piper's famous insignia with the Cub standing on its hands, a special clipped-wing Cub has been built by Aircraft Sales Co., of Fort Worth for its president, Les Bowman, who will perform low-altitude aerobatics at many company air shows this year.

Not a converted J-3, it has an 85-hp. Continental engine with fuel injection and many components of the Piper Super Cruiser, including landing gear and wing struts. The wing, 7 feet shorter than on a J-3, has twice as many ribs and the airplane is beefed up all over. It cost $5,000 to build.

Bowman reports he cruises the Cub at 112 mph. at 2,400 rpms., and tops 125 at 2,600 rpms. The engine is enclosed by a new Piper PA-11 cowling and its fuselage is faired.

His clipped-wing shows will be performed below 800 feet and will include "just about everything in the books," Bowman said. Winner of many aerobatic contests in the past, he formerly performed in a special Ryan ST. Bevo Howard, who won the recent aerobatic contest at the All-American Maneuvers in Miami, has flown Bowman's new clipped-wing and complimented its performance.


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## Cohu Heads TWA; Frye with General Aniline

Jack Frye, who recently resigned, has been succeeded by LaMotte Cohu, prominent aviation industry leader and chairman of Northrop Aircraft Corp., as president of Trans World Airlines. Frye has accepted the chairmanship of General Aniline & Film Corp.

## Boeing in Ram-jet Engine Test for AAF

A combustion test of high-speed ram-jet engines for the Army Air Forces has been undertaken by Boeing Aircraft Co. Scene of the experiments will be a propulsion laboratory housed in two buildings on the shores of Lake Washington, near the Puget Sound Power & Light Company's Shuffleton steam electric power plant at Renton. A modified GE I-40 jet turbine, driven by steam piped from the electric plant, will be used to compress air to supersonic speeds for testing the Boeing engines in a "thermodynamic" wind tunnel.

## World Airline Proposal Favors Flying Boats

Capt. C. H. (Dutch) Schildhauer, long known as the country's foremost exponent of flying boats, has filed a petition with the Civil Aeronautics Board for a round-the-world airline using Martin JRM-Mars type flying boats. Capt. Schildhauer estimated that his airline, to be known as United States Flying Ships, Inc., could make a complete circuit of the globe in 130 hours. He said that his company would use eight of the JRM type boats as initial operating equipment, and estimated deliveries would be possible in 1949.

## Two Jets, Two Majors Power New Martin XP4M-1

A new patrol plane, the Martin XP4M-1, powered by two 3,000 hp. Pratt & Whitney Wasp Major engines plus two Allison J33-4 jet engines, each developing 4,000 lbs. of thrust, has been announced by the Navy. Weighing 78,000 lbs. and with a 114-ft. span, the XP4M-1 appears to be a two-engine ship since the jet engines are mounted behind the reciprocating power plants in the same nacelles. The new patrol plane has a 200-mph. cruising speed with conventional engines only, and a top speed with all engines of well over 350 mph. Range is over 3,000 miles.

The XP4M-1 is very heavily armed, and one of the most completely electronically-equipped aircraft ever made. One experimental model is now flying, and a second is nearing completion at the Martin plant.

## No Limits Seen for Aircraft Power, Speed

The National Advisory Committee for Aeronautics stated in its 32nd annual report to Congress that it sees no definite limit to the power that may become available for aircraft propulsion, nor to the speed that may be attainable.

NACA said that its laboratory facilities are being expanded to provide some of the research facilities urgently needed by both the military services and industry. It pointed out that during the war emphasis had to be placed on improving existing weapons, but stressed that the urgent necessity at present is for fundamental research.

## Cyclone 9 at 1,525-hp.

A new 1,525-hp. model of the Wright Cyclone 9, designated Cyclone 9HE, has been announced by Wright Aeronautical Corp. The new engine weighs only .93 pounds per horsepower as against .95 pounds per horsepower for its immediate predecessor—the 1,425-hp. Cyclone 9HD. The high power of the new engine is obtained through the use of either a simple lightweight system of water injection, or by operation on a gasoline of grade 122/145.


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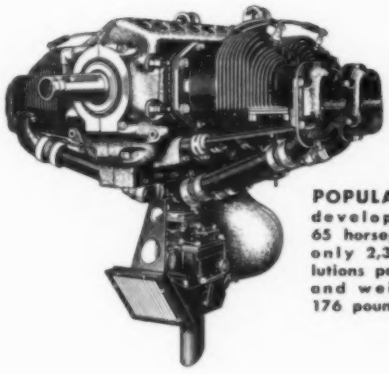

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